NEW REMEDIES.

THERAPEUTICS.

THE PHYSIOLOGICAL ACTION OF ALCOHOL.

'In a paper on monatomic alcohols in their pharmacological relations, read before the meeting of Russian *savants* at Kasan in 1873 (Pflüger's *Archiv*, vol. viii. parts 11, 12) J. Dogiel arrives at the following results:

1. Ethyl-alcohol, when introduced into the stomach, is not only absorbed by the veins, but also by the lacteals. The alcohol can be detected in the chyle of the thoracic duct, as well as in the serous and arterial blood, in about a minute and a half after its introduction.

2. The excretion of the alcohol from the organism, apart from the ways already known, occurs also through the skin in frogs.

3. Ethyl-alcohol acts chiefly, not through reduction in the blood, nor through the oxidation-products of the alcohol in the blood (certainly not through aldehyde or acetic acid), but as alcohol.

4. The action of alcohol on blood obtained from an artery is very different, both in relation to its coagulation, and to the escape of hæmoglobin from the blood-corpuscles and its crystallization, according to the concentration and quantity of the alcohol, and according to the duration of its action and the temperature. Blood drawn from an artery, and treated with alcohol from 40 to 20 per cent. (after Richter), either does not coagulate at all, or only very loosely; whilst alcohol of 97 per cent. causes even defibrinated blood to coagulate. The most favorable circumstances for the preparation of hæmoglobin crystals

is to add to 10 grammes of defibrinated blood two or three grammes of 97 per cent. alcohol and allow the mixture to stand for twenty-four hours, at a temperature of 57° to 63° Fahr.

5. The crystallization of hæmoglobin under the influence of alcohol does not depend on the action of oxygen. Blood charged with carbonic oxide or carbonic acid crystallizes almost at the same time with arterial and venous blood.

6. Blood from an animal which is under the influence of alcohol coagulates more slowly and yields less fibrine than normal blood.

7. Ethyl-alcohol rapidly causes the amœboid movements of the white corpuscles to cease, and at a certain concentration dissolves both them and the red ones.

8. If ethyl-alcohol be added to blood drawn from an artery, putrefaction is retarded and the development of low organisms prevented. Arterial blood, obtained from an intoxicated animal, decomposes more quickly than normal blood.

9. The action of ethyl-alcohol on the heart-beats consists in acceleration followed by retardation. Under a strong alcoholic action, the very pronounced retardation of the pulse passes again into acceleration. These phenomena depend on the one hand upon stimulation of the accelerating nerves of the heart, and on the other, on the increased and afterwards diminished excitability of the inhibitory fibres of the pneumogastric nerves. In general, however, the excitability of the accelerating nerves of the heart resists the paralyzing action of the alcohol longer than does the excitability of the pneumogastric nerves. Ethyl-alcohol is not without an effect on the cardiac muscles, which is indicated under certain circumstances by the beats of the heart becoming slower and stronger.

10. The arterial blood-pressure is at first increased and then diminished by the alcohol. The excitability of the vaso-motor centre runs parallel to the blood-pressure. If the blood-pressure have sunk, neither dyspnœa nor the reflex stimulation of the vaso-motor centre from the central end of the vagus produces the ordinary effect.

11. The rapidity of the blood-current in the carotid artery is at first increased and then diminished under the influence of alcohol. The greatest retardation of the blood-current coincides with the period of alcoholic narcotism (sleep).

12. Respiration is accelerated when small doses of ethyl-alcohol are introduced into the stomach or injected into a vein of the leg; with larger doses it is, however, rendered slow. The depth and rhythm of the respiration also vary. The slow respiration is at the same time superficial. Inspiration becomes longer. The reflex action from the vagus on the respiratory centre, which is generally evidenced by an

acceleration of the respiration, becomes weaker, according to the degree to which the intoxication increases. If alcohol be injected into the jugular vein in the direction of the heart, there follows at once, with intact vagi, slowness of respiration; with divided vagi, however, there is acceleration. The change of the respiration under the influence of alcohol depends on its action both on the medulla oblongata and on the ends of the sensory fibres of the vagus in the lungs.

13. The temperature of the body sinks under the influence of alcohol.

14. The reflex movements produced by irritating the skin in beheaded frogs are first increased under alcohol, and then diminished.

15. The excitability of motor and sensory nerves is at first increased and then lowered.

16. The power of muscular contraction is affected in the same way.

17. The quantity of chyle from the thoracic duct is at first increased, and then diminished.

18. The same is true with regard to the secretion of the gastric juice.

19. The quantity of urine increases, even though the peristaltic movements of the ureters follow each other at increased intervals.

20. The secretion of saliva from the submaxillary gland is increased, whether the alcohol be injected directly into the stomach or into the blood.

21. The action of ethyl-alcohol on the nervous system is direct, but is not caused by changes of the blood or of the circulation.

22. Methyl-, prophyl-, butyl-, and amyl-alcohols act similarly to ethyl-alcohol, but differ from each other in the intensity of their action. This difference in the intensity of the action of monatomic saturated alcohol stands in intimate relation to the difference in composition in these compounds. Corresponding to this, methyl-alcohol acts less intensely than ethyl-alcohol, whilst prophyl-, butyl-, and amyl-alcohols act in the ascending scale much more strongly.—*London Med. Record.*

THE INFLUENCE OF ALCOHOL ON THE TEMPERATURE.

Numerous experiments made by Riegel under the greatest possible precautions against the fallacies of previous investigation as to the action of alcohol upon the body heat, confirm, in main, those already obtained by Binz and Bouvier. In small doses, alcohol reduces the temperature—mostly one-sixteenth of a degree Cent.—for a short time, both in the non-febrile states, as in typhoid, erysipelas, pneumonia, and acute articular rheumatism. In rare cases an elevation of temperature in like degree ensues. In convalescent patients the fall is usually less; sometimes does not occur at all. Also in drinkers it is noticed that

there is no reduction. The larger the dose of alcohol, the more marked is the reduction in definite limits. If alcohol may not then be regarded as exactly a febrile, as claimed in England, it is still settled that it never elevates the temperature to any extent, as has been so much feared by practitioners. As it lessens the destructive metamorphosis in the body, and as it reduces the amount of consumption, it should be given in the earlier stages of acute diseases. The author secured particular accuracy in his results by not contenting himself with a comparison between the normal temperature curve with the alcohol curve, but by making a special examination before every experiment with alcohol. Thermometers were inserted both in the axilla and rectum at the same time, as the mobility of the instrument in the axilla invalidates conclusions in long-continued observations.—*Deutsches Archiv.*—*The Clinic.*

Treatment of Alcoholism by Nux Vomica (*Irish Hospital Gazette*, May 1, 1874).—Dr. Luton has obtained excellent effects from the use of nux vomica in chronic alcoholism where the evil has not passed into the absolutely degenerative stage of tissue-change. In the tremors, and the cerebral, gastro-intestinal, and thoracic disorders of alcoholism he resorts with confidence to the use of extract or tincture of nux vomica in ordinary doses.

THE THERAPEUTICAL VALUE OF THE SULPHIDES.

An excellent article was contributed to the *Lancet*, of February 21st, by Professor Sydney Ringer, on the sulphides of potassium, sodium and calcium. He says:

"I wish to call attention to the value of sulphides present in many natural waters, in abscesses, boils, and scrofulous sores. The influence of the group on the suppurative process is easily made manifest. Thus when sulphide of potassium or calcium is administered, a thin, watery, unhealthy discharge becomes at first more abundant, afterwards diminishing, and throughout continues thicker and healthier, possessing indeed the characters of "laudable" pus. The condition of the sore improves correspondingly, and its healing is promoted.

"Their efficacy may be frequently demonstrated in cases of the following kind: An unhealthy child, from six to twelve months old, suffers from a slight sore throat, perhaps occurring in scarlet fever or measles. The sore throat produces considerable enlargement of the glands behind the angle of the jaw. The swelling, of stony hardness, may be sufficiently large to interfere with swallowing and to push the head on one side. Suppuration takes place, but is very deep-seated, and for a

long time there is neither redness of the skin nor fluctuation, and the pus very slowly makes its way to the surface, so that a fortnight, three weeks, or even a month may elapse before the abscess bursts or is fit to be opened, when a deep hole is left, with considerable induration around it. The pain and constitutional disturbance are so great that the child sometimes dies; and even if this termination is averted, the deep discharging hole heals very slowly, owing to the indurated and unhealthy state of the adjacent tissues. If a tenth of a grain of sulphide of calcium, mixed with a grain of sugar of milk, is given in such a case every hour or two hours, the results are most striking. The swelling becomes smaller, the pus reaches the surface in four or five days, and when it is evacuated leaves a benign wound which quickly heals. The effects of these remedies are equally conspicuous in mammary abscesses, although in rare instances they appear temporarily to increase the pain, a remark which seems sometimes to hold good with respect to boils. But as a rule the pain is speedily mitigated. Singular to say, I have found these remedies of much less use in forwarding the maturation and expulsion of pus in indolent buboes, but my experience of their use in buboes has been but small.

"In boils and carbuncles these remedies yield excellent results. A tenth of a grain of sulphide of calcium, given every two or three hours, generally prevents the formation of fresh boils, while it lessens the inflammation and reduces the area of the existing boils, and quickly liquefies the core, so that its separation is much more speedy, thus considerably curtailing the course of the boil. Where the skin is not yet broken, and the slow separating core therefore not yet exposed, the sulphides often convert the boil into an abscess, so that on bursting pus is freely discharged, and the wound at once heals. These remedies meanwhile improve the general health, removing that debility and malaise ordinarily so markedly associated with these eruptions. In some cases, however, as in the deep-seated boils and abscesses of diabetes, they are powerless. In carbuncles the sulphides will generally be found equally serviceable, melting, as it were, the core into healthy pus, and so quickly expelling the dead and otherwise slow-separating tissue. In abscesses and carbuncles it is useful to apply belladonna over the inflamed part to reduce inflammation and allay pain. The skin should be thickly smeared with equal parts of belladonna and glycerine, and over this a poultice applied, renewing the belladonna each time the poultice is changed. Poultices, however, being liable to bring out a fresh crop of boils, one of the following plans should be adopted: Smear belladonna ointment some distance round, but not over the boil, and then apply a poultice, the greasy application thus protecting the neighboring tissues. Or, still better, apply a belladonna or opium plaster on

leather, with a hole the size of the boil around the swelling, and through the opening smear glycerine and belladonna, covering all with a small poultice. The leather plaster efficiently protects the surrounding skin and adverts the production of fresh boils.

"I have thought it worth while to mention these useful plans of protecting the boil; but it is scarcely necessary to observe that whilst investigating the effects of sulphides, I have employed them alone, or at most sometimes using only a poultice. The good effects of sulphides are conspicuous in certain scrofulous sores not uncommonly seen in children.

"The sulphides appear to me to exercise a very beneficial influence in suppurating scrofulous glands in the neck. Here again they hasten the elimination of the pus, and subsequently the cheesy scrofulous matter. After the abscesses have burst, and continued slowly discharging a scanty, unhealthy pus, and when the edges of the sores have become much thickened and indurated, these remedies render the discharge more abundant, thick, creamy, and healthy, considerably hasten the evacuation of the scrofulous matter, which prevents the healing of the wound, and at the same time soften the round indurated edges, so that the sore heals much more speedily. If small doses appear to effect these sores but little, larger doses, as half a grain or a grain, should be given several times a day, or even every two hours. I need hardly say that to compass the results described the treatment must be continued several weeks, for it is vain to expect them to occur in a few days, when the sores have been discharging perhaps for months or even years."

MERCURY IN SYPHILIS.

In a paper published in *The British Medical Journal*, Jonathan Hutchinson, F.R.C.S., arrives at the following conclusions:

That mercury is probably a true vital antidote against the syphilitic virus, and that it is capable of bringing about a real cure.—That, in practice, a good many cases are really cured by mercury; the cure being proved by the restoration to good health, and, in some cases, by renewed susceptibility to contagion.—That the probability of cure depends upon the stage of development attained by the disease when the remedy is resorted to, and upon the perseverance with which it is used.—That, in order to secure the antidotal efficacy of mercury against syphilis, it is desirable to introduce a considerable quantity into the system, and to protract its use over a very long time.—That ptyalism and other evidences of the physiological action of mercury,

so far from being beneficial, are, if possible, to be carefully avoided, since they prevent the sufficiently prolonged use of the remedy.—That in cases in which the patient shows an idiosyncrasy peculiarly susceptible to mercury, the indication is to reduce the dose rather than to omit the drug.—That it is impossible to begin the administration of mercury too soon, and that it should be resorted to without loss of time in all cases in which a chancre shows a tendency to indurate.—That many cases of indurated chancre, treated early by mercury, never show any of the characteristic symptoms of the secondary stage.—That in other cases of mercurial cure of the chancre, in which yet secondary symptoms do occur, they are usually milder than if allowed to develop without specific treatment.—That when mercury does not wholly abrogate the secondary stage, it exhibits a remarkable power in delaying it.—That delayed outbreaks of secondary syphilis are to be regarded rather as proof that the administration had not been sufficiently persevering than that the remedy was not efficient.—That it is probable that the risk of tertiary symptoms is in ratio with the severity and prolonged duration of the secondary stage.—That there are some grounds for believing that the tertiary symptoms of syphilis are both less frequent and less severe in those who have been efficiently treated by mercury than in others.—That mercury, cautiously given, does not, in a great majority of instances, do any injury to the general health, and that its local inconveniences may usually be prevented.—That the doctrine of the real antidotal character of mercury, in respect to syphilis, ought to lead to much more prolonged administration of it, with the hope of destroying utterly all lingering germs of the malady.—That most collected statistics as to the duration of treatment and freedom from relapse are misleading and worse than useless, because usually the treatment was far too short to be effectual.—That it has not yet been proved that there are any special forms of syphilitic disease in which mercury ought to be avoided, although, as a general rule, it is acknowledged that it must be used with more caution in all forms which are attended by ulceration than in others.—That iodide of potassium possesses little or no efficacy against either the primary or secondary form of syphilis.—That the efficacy of mercury is often most signally proved in cases which have utterly resisted the action of iodide of potassium.—That it does not much matter whether mercury is given by the mouth, by inunction, or by the vapor-bath, provided that, whichever method be selected, care be taken to avoid salivation, purging, etc.—That the doses usually resorted to for internal administration are for the most part too large, and thus often necessitate a premature discontinuance of the remedy. If one method of administration do not succeed satisfactorily, another should be tried,

and that in no case of difficulty should the vapor-bath be forgotten. —*Phil. Med. Times.*

GUAIACUM IN THE TREATMENT OF SYPHILIS.

Dr. Alexander McBride, in a letter to the *Cincinnati Lancet and Observer*, remarks that many practitioners neglect the use of guaiacum in this affection, thinking that it belongs to old rubbish; but that he has had large experience with it, and he thinks the chief reason it has fallen into disuetude is that it is so hard to get into the stomach in sufficient doses. In the case of the decoction, large doses are required to be taken for months. But this is not so bad as the tincture; for, however made up, it is repulsive, and even becomes intolerable. It should then be made up into pills, which will be taken readily enough; but the success of the pills depends upon how they are made. Alcohol is the only proper excipient. The resin should be powdered, and ligneous and cortical impurities be sifted out; the mortar, pestle, and pill machine should be warm, and a very little alcohol added; it can then be made up quickly into pills, which will keep well. Of these about a dozen can be taken daily, and they answer well for secondary and tertiary manifestations, especially the cutaneous variety.

PARENCHYMATOUS INJECTIONS OF CARBOLIC ACID AS AN ANTIPHLOGISTIC.

The Medical Times and Gazette reproduces, almost textually, from the *Centralblatt* of January 24, an important article bearing this title, from the pen of Professor Heuter, of Greifswald:

"Although (he observes) the antiphlogistic action of carbolic acid as a dressing for wounds is sufficiently well known, and subcutaneous injections of it have been used as an antipyretic in intermittents, the parenchymatous employment of carbolic injections as an antiphlogistic, as I have used them in my clinic with such distinguished results, has not as yet been made known. I can believe that this mode of applying carbolic acid may excite a certain amount of not unjustifiable fear on the ground of the danger of producing general carbolic acid poisoning. On this account, I at first proceeded with these injections with the greatest circumspection, and only after I had, by experiments on frogs, assured myself that the general action of the means is confined to the influence of the carbolic acid on the red corpuscles of the blood. In the subcutaneous and parenchymatous employment

of the acid, it is essentially only a lymphatic absorption which takes place, and only the most fractional portions can gradually enter into the circulation of the blood, when the whole dose does not become combined with lymph in the lymphatic apparatus which it traverses, whereby all intoxication of the blood is avoided.

"1. In *synovitis hyperplast. granulosa* (white swelling or fungus inflammation) of the knee. The injection was thrown into the most central part of the joint, so that the needle came in contact with its walls. The effect was—cessation of pain, diminution of long-enduring elevation of the temperature at night, and a remarkable diminution of the swelling. On account of the chronic nature of the case, the injections had to be repeated at intervals of two or three days. 2. In *subacute glandular swellings with tendency to suppuration*, and buboes, whether in the inguinal or femoral region. Effects: cessation of pain, the redness of the skin and the œdema disappearing; the gland becomes rounded in form, and gradually returns to its normal condition. Several injections have been necessary to secure complete recovery. 3. In *acute phlegmon of the subcutaneous and subfacial connective tissue.* The most peripheric part of the phlegmon is to be chosen, so that the lymphatic vessels may convey the acid in a central direction. In extensive phlegmons, two syringefuls may be injected at different points. Effects: shrivelling of the tissues in a few hours; immediate cessation of pain; and recovery without suppuration (if this had not already been developed), although it seemed imminent. 4. In *traumatic erysipelas.* In this disease I have injected at different points along its border, in order to prevent erysipelas of the forehead, for example, passing over to the hairy scalp. This end has been attained; but as yet I have not ventured to inject the whole border of the erysipelas in numerous places in order to cut short its course.

"I lay great stress on the parenchymatic character of these injections, whereby the carbolic acid is conveyed into the cavities of the largest joints, into the perivascular connective tissue, and into the interior of the glandular substance, and is enabled there to develop its local antiphlogistic power, where almost every method hitherto employed, with the exception of the knife, has failed of success. In this sense I consider that the parenchymatous injection of carbolic acid constitutes the most powerful antiphlogistic means, with which the employment of ice, the abstraction of blood, or any local application, cannot compete. I hope that it will not only be employed in surgical practice, for an important field is presented for its action among the diseases of internal organs. There ought to be no essential difficulty in injecting the parenchyma of the lung, spleen, liver, or kidney;

but the effects of this must be tried first on animals before one feels justified in proceeding thus far. In all cases, the direct injection of this substance into a vein must be avoided, in order that an acute carbolic intoxication may not be produced. In order to be certain on this point, a preliminary puncture should be made with the needle, and observation made whether drops of blood flow out. When this is the case, the needle should be either drawn somewhat back or thrust deeper in, and the injection made only when no blood issues from the canula. In the treatment of non-malignant tumors, *e.g.*, fibroma, the same good effects may be expected from these injections; but I have no instance of complete recovery to adduce, and I forbear to offer too enthusiastic a recommendation in this direction. Malignant tumors also may be brought experimentally within the province of this investigation, especially as the injections act as anæsthetics, not as irritants. It is, however, to be borne in mind that in the employment of the carbolic injections in very vascular tissues and tumors, carbolic intoxication may be easily induced."

LOCAL TREATMENT OF CAVITIES IN THE LUNGS.

In the *Berliner Klinische Wochenschrift*, No. 43, for 1873, Dr. F. Mosler stated that in two cases of advanced phthisis, with cavities lying near the surface of the lungs, he injected a dilute solution of permanganate of potash into the cavities. No reaction followed, and the general condition of the patients appeared to be at once improved. In another case, that of a man aged forty-nine, who had for five years had bronchial dilatation in the upper lobe of the right lung, and who also suffered from amyloid degeneration of the kidney and intestine, he established a fistulous opening in the second intercostal space, and introduced a silver drainage-tube. The operation was not followed by any febrile reaction. There was an abundant purulent discharge through the tube, especially on coughing, and the patient's general health was improved. Some hæmoptysis appeared, which was restrained by the inhalation of a dilute solution of perchloride of iron through the canula. After this, atomized carbolic acid and tincture of iodine were inhaled in the same way. The pus became more healthy and more abundant, and the pulmonary disease appeared to make no advance, but the patient gradually sank, and died four months after the operation, the inhalation of carbolic acid having been continued twice daily until the last. The right pleura was adherent throughout, and at the upper lobe formed a thick and almost cartilaginous membrane. The fistulous opening led into a cavity occupying nearly the whole upper

lobe, filled with a yellowish, creamy fluid; it was lined with smooth membrane, presenting granulations at some points. The spleen, kidneys, and intestines were in a state of amyloid degeneration. A similar mode of treating pulmonary cavities has been practised, independently of any knowledge of Dr. Mosler's contribution, by Dr. W. Pepper, Professor of Clinical Medicine in the Univ. of Pennsylvania. In the *Philad. Med. Times* for March 14, he describes three cases of phthisis with vomicæ which he treated by injecting a few minims of a dilute Lugol's solution of iodine (four minims to an ounce of water). The operation was sometimes followed by transient cough and hæmoptysis. In the first case, that of a man aged twenty-nine, marked improvement in the patient's condition followed; the breathing was greatly relieved, the cough diminished, and there was some increase in flesh. In the other two cases the result is not stated. Dr. Pepper says that the only point which is actually demonstrated by his cases is the possibility of puncturing and injecting pulmonary cavities without producing mischief; the practical value of this mode of treatment is, as yet, uncertain. It appears to him that, considering the almost hopeless nature of some cases of lung-disease, the proof that a puncture may be made into the lung-tissue and remedial agents brought into direct contact with the seat of disease, without any serious danger, calls for a patient trial of it.

THE AILANTHUS GLANDULOSA IN THE TREATMENT OF DYSENTERY.

M. Robert, the principal medical officer attached to the naval division of China and Japan, gives an account of the remarkable results he has obtained in the treatment of dysentery by the ailanthus glandulosa. The plant belongs to the Xanthoxylaceæ, is widely spread in China, is sufficiently common in our gardens, and is easily recognizable by its long pinnate leaves, remotely resembling those of the ash. M. Robert has found that in hot climates it gives results superior to those of ipecacuanha, calomel, and astringents, either with or without opium, and to the treatment by milk. The bark of the root is the only part used, and the mode of preparation is to make an infusion of about two ounces by weight in four ounces of water. The bark is lightly bruised and the infusion is passed through a filter.

The dose is a dessertspoonful morning and evening, either by itself or in a cup of tea, for three days; great attention being paid to the diet. If at the expiration of eight days the affection is not cured, the treatment should be recommenced. The infusion is very bitter and

produces nausea, and if the above dose is doubled, vomiting is induced. In four of Dr. Robert's cases the ailanthus was given with other remedies; in twelve others it was given alone, and a cure was always effected in from eight to twelve days.—*Archives de Méd. Navale*, and *The Practitioner.*

Garcinia Mangostana as an Antidysenteric.—In the Vienna Exhibition were shown specimens of an "antidysenteric extract" prepared from the pods of the mangosteen (Garcinia mangostana), a plant well known in the East Indies. The extract has been prepared by Herr Gruppe, of Manilla, and has been used in a large number of cases in hospital and private practice. It is said to be a trustworthy remedy in dysentery and in chronic diarrhœa, as well as in catarrhal disorders of the uterus, bladder and urethra, and generally in diseases for which astringents are indicated. It may be given in pills, or, especially to children, in the form of syrup.

THE ABORTIVE ACTION OF QUINIA.

The thrice-vexed question of the action of quinia upon the uterus has claimed a large share of attention. That this agent does sensibly excite uterine contractions can hardly be doubted; the evidence on this point is overwhelming. Yet it is uncertain whether the few reported cases of abortion under its use have been owing to this action, or to the paludal poison for which it was prescribed. The testimony here is so conflicting, that the *Société de Médecine*, of Ghent, Belgium, has proposed the subject as a prize essay for 1874. After carefully weighing the evidence of his own experience and that of others, your reporter has arrived at the following conclusions: 1. That quinia, by producing intermittent contractions of the womb, has in large doses occasionally brought on an abortion in the very early months of gestation. 2. That it should not on that account, however, be withheld from pregnant ague-patients; for, other things being equal, an abortion is more likely to be induced by the visceral congestions and muscular succussions attending an attack of ague than by the oxytocic property of the antiperiodic. 3. That the uterine action of this drug is too slow and too uncertain to be relied upon in the emergencies of ante or post-partum hemorrhages. But that, in decided doses, it will often prove of service in menorrhagic or metrorrhagic attacks. 4. That, like ergot, it acts most efficiently after labor has begun; a dose of ten grains being usually followed, in inertia, by a prompt return of the pains. 5. That, apart from its tonic and antiseptic properties, quinia is *par excellence* the remedy for puerperal disorders. By lowering the high

temperature generated both by accelerated molecular metamorphosis and by rapid chemical combinations, it retards the oxidation of the tissues, hinders the formation of fibrinous concretions, and therefore prevents cardiac plugging. By contracting the walls of the womb, it tends to keep the protective coagula of the uterine sinuses from becoming loose and soluble, and to inhibit putrid and purulent absorption. Both by constringing the coats of the capillary system of blood-vessels, and by paralyzing the amœboid movement of the white blood-corpuscles, it presents, in puerperal fevers, an obstacle to fibrinous exudation and to the migration of the leucocytes into serous cavities. —Wm. Goodell, M.D., *Trans. Med. Soc. of State of Pennsylvania*, 1873.

In a lecture reported in the *Gazetta delle Cliniche*, No. 29, 1873, Dr. Chiari, of Milan, says that he has given quinine to forty patients in the Royal St. Catherine Institution of that city, and has arrived at the following results: 1. Disulphate of quinine possesses no action as an abortifacient. 2. In the artificial induction of premature labor, quinine is not to be trusted, either alone or as an adjunct to mechanical means. 3. In cases of languid, suspended, or irregular labor, it would not be sound practice to trust to the action of quinine; and *à fortiori*, its effect must be regarded as negative when administered in cases of slight malformation of the pelvis. 4. The assertion of Ponti, of Parma, that ergot must give way to Peruvian bark, is chimerical, at least as regards midwifery. 5. When quinine is indicated by the presence of general morbid conditions during pregnancy, it should be given, not only as a remedy for the disease, but also as the best means of preventing abortion or premature labor. 6. Quinine has no power whatever in preventing or modifying morbid conditions of the puerperal state, whether of infectious or of sporadic origin.

Whooping-Cough Treated by the Insufflation of Quinine. —Letzerich (*Virchow's Archiv*, *Glasgow Medical Journal*, January 19, 1874) states that whooping-cough is due to the presence of a fungus in the air-passages. In bad cases he thinks that it penetrates as far as the alveoli. All the symptoms of whooping-cough are due to irritation by this fungus. Unlike the fungus of diphtheria, it does not penetrate into the circulation. As quinine hinders the development of fungi, it is indicated in the treatment of whooping-cough. He recommends a local application of quinine in powder, by insufflation, along with bicarbonate of soda and gum arabic, the former to dissolve the mucus, and the latter to cause the powder to adhere. His powders contain from one to two grains of muriate of quinia, as much bicarbonate of soda, and about double the quantity of gum arabic. The in-

sufflation is to be repeated night and morning, and care taken that the powder be blown in while the child is taking a deep inspiration (as in sobbing), so that the agent may get properly at the mucous membrane of the trachea, where the fungus is chiefly situated. The author has found great benefit from this treatment.—*Detroit Review*, April, 1874.

The Physiological Action of the Compounds of Bromine.—As there had been in the last decade a controversy about the action of the compounds of bromine, Dr. Steinauer, of Berlin, entered into the matter thoroughly and experimented with different salts of bromine. The results of his investigations are the following:

I. Bromine manifests a decided action upon the animal organism only in those compounds which are easily decomposed, with the separation either of free bromine or hydrogen bromide.

Such compounds (for instance, monobrom. acetic acid) cause:

1. In cold-blooded animals—

(a) A paralysis of the heart muscles and the excito-motor centre of heart nerves.

(b) A depression of the irritability of the spinal ganglia and the peripheral nerves and muscles.

2. In warm-blooded animals the symptoms are in general the same as in cold-blooded animals. Death is caused by paralysis of the heart, especially of the heart muscle.

II. Those compounds of bromine (potassium bromide and monobromated benzol) which are not apt to lose the component bromine manifest a peculiar action. The substituted bromine atom *alters* the action in the organism, which the analogous compounds—destitute of bromine—would undergo. Besides it *modifies* the action of the other component.

Inhalations of Muriate of Ammonia in Chronic Affections of the Chest.—In a recent communication to the *Société Médicale des Hôpitaux*, Dr. Libermann described the results which he had obtained through the employment of an inhaling apparatus containing muriate of ammonia, in chronic diseases of the respiratory organs. A description of the apparatus was given, by which it appeared that it was handy, applicable to children, and available for inhalations of a great number of volatile substances. The good results afforded by the drug were attributed to its exciting, irritating action, which produces a revulsive effect. The cases which were especially benefited by muriate of ammonia thus employed included clergymen's sore-throat, in its chronic inflammatory form, and which was rapidly amended, and sometimes speedily healed; chronic bronchitis, which, through its

catarrhal element, was invariably amenable to the action of the remedy; and nervous affections of the air-passages, especially convulsive cough and the various forms of idiopathic asthma.—*Lancet.*

Digitalis in Puerperal Cases.—Dr. Winkel, who has made various experiments with the different preparations of digitalis, does not hold it to be a specific in puerperal fever, but administers it as a prophylactic against the phlegmonous process. Where disturbance of the digestion results, he discontinues its use. Dr. W. found the hypodermic use of digitalin dissolved in equal parts of alcohol and water, in the proportion of .001 gramme of digitalin in 3 grammes of fluid, to be the best method of administration. The mean requisite dose is .005 gramme. The advantage of this preparation is found in the smallness of the dose and the ease with which its action may be regulated. The effect follows in one to three days generally, a simultaneous sinking of temperature and pulse being observable. Elimination cannot be absolutely stated to take place through any organ. Digitalin appears to act upon the brain, producing rest, better sleep, and enlargement of the pupil. It appears also to act as a styptic, recommending itself in this respect after severe hemorrhage.

The question as to the tolerance by puerperal women of large doses cannot as yet be answered, the assertion of its only partial absorption through the altered condition of the intestine being unsupported by proof. The favorable action of digitalis is attributed by Dr. W. to its effect upon the circulation; for, as in the chills of the puerperal condition the prognosis is more favorable when the pulse is not over 100, it is evident that a remedy which will prevent such increase must be beneficial. The observation of after-pains following the continued use of digitalis, together with its styptic action, has given rise to the conjecture that its effect is upon the unstriped muscular fibres of the uterus. By its contraction of the capillaries it prevents exudation of the colorless blood-corpuscles.

Aconite in Headache.—Dr. Fothergill (*British Medical Journal*, January 10, 1874) recommends the use of aconite in congestive headaches, attended with great contemporary coldness of the hands and feet. The remedy dilates the peripheral blood-vessels, and so relieves the congested cerebral vessels.

The Effects of Oxygen on Temperature and Circulation.—A. Naumow and S. Beljaew (Pflüger's *Archiv*, vol. viii.) have experimented on the temperature of the body and the rapidity of the blood-current under inspiration of oxygen and atmospheric air. Their experiments on man and dogs showed that the temperature during respiration

of oxygen is exactly the same as when atmospheric air is breathed. The number of heart-beats is also uninfluenced by oxygen. The rapidity of the blood-current in the carotids seems, however, to increase under the influence of oxygen.

Bleeding versus Aconite.—Dr. Brunton (*British Medical Journal*, January 10, 1874) shows that arterial sedatives act more powerfully and permanently than venesection. Voit found that bleeding increased the decomposition of albuminous tissues, which is already too great in fever, and also lessened the combustion of fat. It thus increased the tendency to fatty degeneration. Aconite, on the contrary, lessened tissue change. The tissues of animals poisoned by aconite retain their irritability long after death, just as in cold-blooded animals, where tissue change goes on slowly. Aconite has thus a double advantage over bleeding.

Administration of Podophyllin in Habitual Constipation.—Van den Corput recommends the following formulæ:—1. Podophyllin, 20 centigrammes (3 grains); soap, 1 gramme (15 grains); essence of fennel or of canella, as many drops as are sufficient; the mass to be divided into ten pills, of which from two to four are taken daily. 2. Podophyllin, 30 centigrammes (4½ grains); extract of nux vomica, 50 centigrammes (7½ grains); extract of belladonna, 30 centigrammes, to be divided into ten pills, of which two or three are a daily dose.

Jaborandi—A New Sudorific and Sialagogue.—Dr. Coutinho, of Pernambuco, has introduced to the notice of the profession a plant hitherto known only in Brazil. According to the testimony of Dr. Rabuteau, this plant possesses the most decided diaphoretic qualities, and, in addition, acts as a powerful sialagogue. An infusion of fifty grains of the powdered leaf in about six ounces of water, although partaken of when cold, produced within three-quarters of an hour profuse sweating, accompanied by free salivation.

Treatment of Acute Rheumatism by means of Firm Dressing.—This mode of treatment, recommended by Scutin, and applied in three cases by Gottschalk in 1845, was forgotten, until again brought forward by Concato, and more recently by Heubner. It is the subject of a paper by W. Oehme, in the *Archiv der Heilkunde*, whose observations have been made in *Wunderlich's Clinic*. The results of the applications of light bandages are—1. That the pains cease very soon after their application; the application consisting of pasteboard, occasionally, in children and patients in delirium, with a plaster-of-paris bandage superimposed. As a rule, indeed, the pains cease in from

twelve to forty-eight hours, or at latest after seventy-two hours. 2. The febrile symptoms are materially diminished in violence and shortened in duration. In a series of ninety cases, whilst the average duration of the febrile symptoms in the cases treated without the firm dressing, and for the most part with digitalis, was 9.3 days in hospital (plus 4.6 days before admission), those treated with firm dressing had a duration of 6.1 days. A fall of temperature usually occurs after twenty-four or forty-eight hours after the application of the dressing. 3. The combination of the reduction of the pain and of the duration of the fever caused a shortening of the total duration of the disease, and hence acted as a prophylactic in preventing fixation of the joints. Lastly, the profuse sweats characteristic of the disease seem to be diminished.—*Archiv der Heilkunde*, 1873, xiv., p. 385.

THE LOCAL TREATMENT OF GANGRENOUS VULVITIS IN YOUNG GIRLS BY IODOFORM POWDER.

This serious affection is in some cases connected with convalescence from scarlatina, the sequelæ of a severe attack of fever, or some similar assemblage of unhealthy conditions affecting the whole of the organism. The younger Guersant and M. Trousseau have given some most useful counsels on this subject. After the indications given by the most powerful modifying agents, these two practitioners have not feared to have recourse to the disorganizing action of the actual cautery. This agent has, according to their experience, proved the least uncertain method of circumscribing the limits of the evil. MM. Rilliet and Barthez employed chloride of zinc for the same object, but these means are all very painful, and if, as it is affirmed in the *Progrès Médical*, M. Parrot, the surgeon to the Paris Children's Hospital, has succeeded in avoiding the disagreeable effects of this somewhat barbarous treatment, he will have effected great good. The topical application used at that establishment by the distinguished surgeon in question is the iodoform powder, which is absolutely painless in use. During several years, M. Parrot has been tolerably successful in his treatment of ulcerated gangrenous vulvitis; combating it by the use of dressings of concentrated solution of chlorate of potash frequently renewed, or cauterizations with nitrate of silver. But neither of these methods, nor others needless to recapitulate, have been so uniformly successful as the iodoform. Iodoform alone, tried as a last resource after other topical applications, generally appeared to arrest the invading progress of ulcer in two or three days, and to rapidly facilitate the appearance of fleshy germs in the bottom of the wound. Iodoform in this case acts in the same way as in chancrous buboes, fungous ulcers,

and hospital gangrene. But in order to attain the desired end the iodoform powder must be freely used; not the smallest portion of the wound must remain uncovered by it. When the bottom of the ulceration is very wet and the detritus plentiful, it is advisable to renew the dressing twice a day during the first two days.

The author of the article asserts that he has always very rapidly succeeded in modifying the appearance of these ulcerations by the use of this dressing, and even that he has so completely arrested their progress that none which have been treated in the way indicated have exceeded the size of a sixpence. It must also be noticed that this arrest of extension is accompanied by a rapid disappearance of the contiguous œdema, which raises the edges of the ulcerations and gives them a cup-like appearance.

Permanganate of Potassa in Oxaluria.—Dr. Thorne, of Chicago, praises, in the *Mich. Univ. Med. Jour.*, the use of permanganate in oxaluria. He gives a case and adds:—When we consider the fact that uric acid may disappear entirely from the urine, and that oxalic acid is not normally present, is it not fair to conclude that the uric acid must, in the normal condition of things, undergo decomposition in the body? We find that by adding an excess of permanganate of potassa to uric acid out of the body, it is directly converted into urea and carbonic acid; and that, when the oxidation is less complete, it passes into the form of urea, oxalic acid, and carbonic acid. If, therefore, we would prevent the formation of uric acid and oxalic acid we must supply, as per example, the seven equivalents of oxygen and four of water. This is most conveniently done in the form of permanganate of potassa:

℞ Permanganate of potassa.. grs. viij.
Water ..... ℥ ij. M.
Sig.—One teaspoonful to be given three times a day.

It should not be given except on an empty stomach; for, in contact with organic matter, it is decomposed, yielding its oxygen to any element, simple or compound, that will receive it. I have repeatedly directed, during the last two years, the permanganate to be given as above, in oxaluria, with the most happy result.

Silicate of Soda in Vesical Disease.—Dr. M. Dubreuil recommends the injection of this salt to prevent decomposition of urine in aggravated cases of vesical disease. Experiments prove that the salts of soda are antiputrescent. One gramme of silicate of soda will prevent the decomposition of 100 grammes of urea for an indefinite time, and will also prevent its transformation into carbonate of ammonia. In a

case of vesical disease from enlarged prostate, a solution of 4 grammes in 150 grammes of water was injected, with the effect of restoring the urine to its normal condition.—*Gaz. Méd.—N. Y. Medical Journal*, January, 1874.

Iodine in Incontinence of Urine in Old People.—Dr. Schmidt, of Munsterfield, having witnessed useful effects from the exhibition of iodine in incontinence of urine resulting from paralysis, determined to try it in other cases. An old lady, aged eighty, who had always enjoyed good health, and was very active for her years, was attacked at the age of seventy-six with dysentery, which very much weakened her. From this time the urine passed involuntarily, and for four years she suffered great misery in consequence; from her age her condition was looked upon as incurable. The author gave her one drop of tincture of iodine every hour, and the following day she was able to hold the urine, and she continued the medicine (every two hours one drop) for a fortnight, and with complete success. The discontinuation of the medicine for some time led to a return of the symptoms, which disappeared, however, directly the medicine was resumed. It was continued, therefore, with occasional suspension, for two years, when she died from the effects of a blow.

Another case was an old man, aged seventy-four, who had suffered for six months from the same affection. He was ordered pills, containing each $\frac{1}{10}$ grain of iodine. Immediate improvement followed; he was never quite able to do without the remedy. He died eighteen months later, from inflammation of the lungs.

Oxide of Zinc in Gonorrhœa, Gleet, etc.—We have recently known a number of very obstinate cases of gleet relieved by the introduction of a catheter, smeared with mild zinc ointment, once or twice per day. Many recent cases of gonorrhœa are much relieved by the same means, with the addition of a little carbolic acid, sulphate of zinc, or nitrate of silver. An injection containing about two grains of sulphate of zinc to the ounce of water, and the whole made thick as cream with finely-powdered golden-seal (Hydrastis Canadensis), is deemed invaluable by some who have been very speedily cured by it. It is thrown into the urethra, and allowed to remain as long as it will. —*Medical Times and Gazette.*

Borax and Galvanism in Pruritus Urethræ and Pruritus Vaginæ.—H. Clemens (*Praktische Heilkunde*, vol. i., 1874) treats this obstinate affection by means of grooved metal bougies smeared with an ointment containing borax and lard in the proportions of 1 to

3. . Should he not succeed by this means, he uses the induced current of electricity by passing a leaden bougie, smeared with the above preparation, into the bladder, to which he attaches one pole, while the other pole is applied to the nape of the neck; a gentle current of inducted electricity is transmitted for about ten minutes at a time. In pruritus vaginæ he passes one pole, with a sponge smeared with borax at the end, up the vagina. He states that by this means he has cured the most inveterate cases in old women, and has also cured cases of chorea magna, where it was dependent upon hyperæsthesia of the urethral mucous membrane.

Chloral and Bromide of Potassium in Gonorrhœa (*Irish Hospital Gazette*, March 16, 1874).—Dr. Parona (*Giornale delle Malattie Veneree*) has made an extended trial of chloral as an injection both in the gonorrhœa of men and in vaginal blennorrhagia, and speaks of its value as a sedative, and also as an astringent. The strength of the injection is one gramme, or one gramme and a half, of chloral to one hundred grammes of water. The injection is used three times a day, and retained as long as possible. The best time to commence it is when the acute symptoms are subsiding, and it then not only relieves the pain and distress on passing water, but also removes the discharge. Dr. Bligh (*The Practitioner*, February) speaks highly in praise of the efficacy of bromide of potassium, both internally and locally, in the treatment of gonorrhœa. He prescribes the bromide in ten-grain doses three times a day, in combination with potassium bicarbonate and tincture of hyoscyamus, from the inception of the disease, and orders a syringeful of the following injection every four hours:

℞. Potassii bromidi..... ʒ ij.
Glycerinæ.....f ʒ ss.
Aquæ dest.....f ʒ iss. M.

A draught containing about half a drachm of the bromide in an ounce of camphor-mixture, at bedtime, he found to allay the chordee almost to a certainty. He claims for the bromide the power not only of diminishing the secretions and assuaging the pain of all inflamed mucous membranes, but also of producing a *special* sedative effect upon the organs of generation.

Chloral as a Preservative and Disinfectant.—Dr. W. W. Kean (*Medical Times*, March 21, 1874) gives some very interesting experiments respecting the uses of chloral. He found that solutions of chloral, five grains or more to the ounce of water, would preserve for months, at common temperatures, fresh meat. Further, injections of subjects for dissection with similar solutions preserve their tissues

intact for months. The cost is but little more than the cost of chloride of zinc or arsenic. Chloral keeps the color perfectly, and the parts are of their natural consistence for at least three months. Thus, more delicate dissections can be made, and a more correct idea of the condition of the parts as they were in life obtained. Chloral does not affect the knives.

Specimens of pus, pathological specimens of urine, etc., were perfectly preserved in similar solutions.

As an application to ulcers, etc., the doctor records strikingly favorable results from its use.

Chloral in Bed-Sores.—M. Martineau employs:

Chloral..... 10 grammes.
Distilled water..... 1,000 grammes. Mix.

As a topical application in cases of eschar of the sacrum occurring in typhoid fever, he has found this application to improve the appearance and hasten the granulation of the ulcer.

Action of Chloral on Albuminoid Matter.—At a *séance* of the Académie de Médecine, held February 10, 1874, M. Personne presented the following summary of his experiments on this subject:

1. Fresh blood, to which hydrate of chloral has been added at an ordinary temperature, coagulates completely, preserves its red color, and remains without alteration at a temperature of 77° to 82° Fahr. When coagulated, it is insoluble in water.

2. Defibrinated blood, treated in the same manner, coagulates, but the coagulum is partly soluble in water. The dissolved matter has not been studied.

3. A morsel of muscle immersed in a ten per cent. solution of chloral becomes pale "flesh-color," and exudes a small quantity of reddish liquid, which deposits a brick-dust sediment. After exposure to the chloral solution for some hours the muscle loses the power of putrefaction, and exposed to a temperature of 60° to 78° Fahr. dries rapidly and becomes friable. Dried at 212° Fahr., it constitutes a combination of chloral with the albuminoid matters of the tissues.

It does not furnish chloroform when treated by alkalies.

Like the combination of albumen with bichloride of mercury, it possesses the property of being soluble in an excess of either of its constituents, making its production a matter of some difficulty.

4. These facts suggested to M. Personne the idea of using chloral as a preservative for anatomical preparations, and he presented to the Academy a guinea-pig and a dog, the first of which had been injected with chloral solution four months previously, and the other eight weeks. Both were perfectly preserved.

Portions of muscle preserved in the chloral solution alone became dry and pulverulent, but if this was mixed with an equal quantity of glycerine they remained quite soft. A cerebellum was shown which had been preserved several months, and was still soft, fresh, and in excellent condition for anatomical investigation.—*Phil. Med. Times.*

Deep Injection of Chloroform in Tic-Douloureux.—Dr. J. B. Mattison, of Chester, N. J., reports to the Meigs and Mason Academy of Medicine, Feb. 19, a case of tic-douloureux, in which various agents had been used with very trifling benefit. The man had, in former years, been troubled with a trigeminal neuralgia, and afterwards with sciatica, which had continued for many years, during which time he had acquired the habit of using morphia hypodermically and in large quantities. This, however, afforded no relief from the facial pain.

December 22, 1873. One-third of a drachm of chloroform was injected near the infraorbital foramen by passing the needle beneath the upper lip, and carrying the point to near the emergence of the nerve, where the chloroform was discharged. A severe paroxysm followed its use, and several paroxysms occurred during several days following, but much lighter and far less frequent. After the 27th, no recurrence of the paroxysm took place. During this time he was placed on good general tonics, and also received three times a day hypodermically $\frac{1}{48}$ gr. strych. sulp. and $\frac{1}{60}$ gr. atropia sulp., which was continued for some time. No morphia was used after the 22d inst. In three weeks all desire for the latter agent had been dissipated. Six weeks later the man had entirely recovered his health and returned to his "vocation."

Carbolic Injection of Hydrocele.—Dr. Levis (*Philadelphia Medical Times*) says: The most popular method for the radical cure of hydrocele is the injection of stimulating fluids into the vaginal tunic, after the withdrawal of the serous effusion by the trocar. Of the various injecting fluids proposed tincture of iodine is most generally employed at the present day; but it often fails to produce the inflammation requisite for the obliteration of the sac, and occasionally induces too much inflammatory action. Dr. Levis prefers carbolic acid for the injecting material, and in a case which he describes, used one drachm of a mixture of equal parts of carbolic acid and glycerine.

The injection of carbolic acid seems, from other cases to which it has been applied, to fulfil the conditions most admirably, producing sufficient inflammatory action to secure adhesion of the walls of the sac, and giving little or no pain to the patient, either at the time of its introduction or subsequently. This freedom from pain is probably

due to the local anæsthetic effect of the carbolic acid, for it is well known that, if this article be placed upon the skin, the surface can be scarified with a knife without pain.

Phenic Acid for Tænia.—Dr. Bill recommends the use of phenic acid in the treatment of this worm, and gives an illustrative case where kousso, malefern, turpentine, and other remedies were useless. He gave six grains of phenic acid in half a pint of water, four times a day; in two days segments of the worm were discharged. He then gave the acid in shape of pill, and on the third day the remainder and head of the animal were discharged.—*Medical Press and Circular.*

Carbolate of Soda in Tinea Capitis.—M. Bourbier recommends as one of the most successful applications in this troublesome affection the use of carbolate of soda, the head to be first completely cleansed, the hair clipped closely, or shaved, and then a pomade containing this substance in various proportions to be freely applied.—*Med. Press and Circular.*

Bismuth in Skin Diseases.—A correspondent writes: "The value of bismuth in alleviating the intense itching and irritation which accompanies chronic eczema and other forms of skin diseases is less known than it ought to be. In some obstinate cases, in which the inflamed condition of the derma is aggravated and kept up by the constant scratching and rubbing which the patient finds it impossible not to indulge in, I have found an ointment containing bismuth in the proportion of half a drachm of the subnitrate to the ounce of simple ointment, rubbed up with a little spirits of wine, and applied freely to the skin, give great relief. I was indebted to a work by Dr. McCall Anderson for the suggestion, and have certainly found the ointment far more efficacious as a soothing remedy than the benzoated zinc ointment more commonly used. Dr. McCall Anderson, in recommending bismuth, observes that the ointment must not be made with benzoated lard, or the reverse of a soothing effect may be produced."—*Medical Times and Gazette.*

Arsenic in the Furuncular Diathesis.—M. De Savignac (*L'Abeille Médicale*) makes use of arsenic in the treatment of the furuncular diathesis in the following way. Internally he prescribes—

℞ Sodii arseniat.....gr. ij.
Aquæ.....f ℥ v. M.

Of this mixture a teaspoonful in a little sweetened water is taken twice a day for three weeks. At the end of that time the arsenic is suspended, and for ten days sulphate of sodium is administered daily, in doses of half an ounce to an ounce.

He returns then to the arsenic as before, repeating the course of treatment, if necessary, three or four times. Occasional doses of decoction of dandelion or sarsaparilla are also administered, and the patient is confined to a diet chiefly vegetable.

Externally, poultices and, later, diachylon are used; and if the tubercles occur in groups, and are quite hard, the following emollient application is employed:

℞ Sulphuris sublimat..... ʒ ss.
Pulvis camphoræ ..... ʒ ij.
Unguent. aq. rosæ..... ℥ iss. M.

Anæsthetic Properties of Saponin.—From the researches of Dr. Kohler, quoted in the *London Medical Record*, saponin is possessed of marked powers as a local anæsthetic, so that it is possible that it may be yet of service in surgical operations. A solution of saponin, applied externally, produces partial paralysis of the motor and sensory nerve filaments; administered hypodermically, these effects are realized to a greater extent. Saponin exists in many plants, as in the Silenæ —*Saponaria officinalis;* Polygalaceæ—*Polygala senega;* and Sapotaceæ—Cortex monesiæ, a product of the *Chrysophyllum glycyphlœum.*

The Witch-Hazel as a Hæmostatic.—Dr. Given (*Amer. Pract.*) strongly recommends the witch-hazel in pulmonary hemorrhage. He gives the fluid extract in teaspoonful doses, every twenty minutes, until the hemorrhage ceases. He gives cases illustrating his views, and they are, so far as they go, satisfactory.

Cure for the Toothache.—Dr. Henry T. Reynolds, of Baltimore, writes to the editor of the *Medical News* that for eighteen months he has been using acetate of lead as a remedy for toothache. He finds it better than any of the numerous remedies proposed in the books, and in cases in which it is applicable the relief is instantaneous. He advises the sufferer to apply from one to three grains to the cavity for a moment or two, then to spit it out. It fails in fewer cases than any remedy that Dr. Reynolds ever tried—not more than eight per cent.

Postural Treatment for Extensive Distention of the Intestines with Gas (*Chicago Medical Journal*, March, 1874).—Dr. Chas. T. Parkes recommends that what he terms the "postural treatment" should be tried in all cases of tympany, especially in those complicating gestation. A large enema should be given, so as fully to empty the lower bowel; the patient should then be turned with the face downwards, so as to throw the weight of the body on the distend-

ed abdomen; the thighs being flexed upon the abdomen, the patient should be directed to make straining efforts, which are usually followed by the escape of large quantities of gas.

Cure of Nævi by Monsel's Solution Applied Externally.—Dr. Jacob Geiger, of St. Joseph, Mo., records (in *The American Practitioner* for April) a case in which two nævi, one occupying the perineum and part of the scrotum, and the other seated on the abdomen, of a child six months old, were completely removed, in less than one month, by painting twice a day with a mixture of equal parts of glycerine and a strong solution of persulphate of iron.

Guarana in Lumbago.—Dr. Edward A. Rawson reports, in the *Irish Hosp. Gazette* of April 15, the very happy effects of guarana upon his own person, when suffering severely from lumbago. From fifteen to forty grains were taken in hot water with cream and sugar, with the invariable effect of relieving or putting an end to the paroxysm. He has also had good results from its use in other varieties of chronic rheumatism.

Large Doses of Bromide of Potassium in Epilepsy (*The Lancet*, March 14, 1874).—Dr. Ottley reports a case of severe epileptic convulsions occurring in a man aged 21. For two days he was never three hours at a time without a paroxysm, and they increased in frequency and violence until he had five in twenty-five minutes. Respiration was accelerated, and the patient was comatose and almost hemiplegic. He was then ordered twenty grains of bromide of potassium every hour. In half an hour the fits were less frequent, an interval of four hours then occurred without any convulsion, and nine hours after the administration of the first dose he had his final paroxysm. He continued to improve in every particular. On the following day the bromide was decreased to twenty grains every four hours, and then gradually lowered to twenty grains three times a day, which dose he was ordered to continue for a twelvemonth.

Bromide of Potassium in Epilepsy (*The Dublin Journal of Medical Science*, February, 1874).—At a meeting of the Medical Society of the College of Physicians, Mr. Thomas Hayden read a paper on the use of bromide of potassium in epilepsy, and gave three cases, in all of which a marked amelioration in the condition of the patients had resulted, though it could not be asserted that they were completely cured. He found the full benefit of the salt could be obtained by giving thirty grains thrice daily, and the only symptoms of bromism caused by this dose were vertigo, indistinct articulation, and an unsteady, tottering gait. He believes the efficacy of the drug to

be limited to a reduction in the number of the fits and a mitigation in their severity, while at the same time the nutrition of the nerve-centres is promoted, as judged by the improvement of memory and of self-confidence, and the cessation of muscular tremor on the part of the patient. He could not agree with Dr. Darby, who had tried bromide of ammonium with young females, and had obtained more favorable results than from the use of the potassium salt. He thought, on the contrary, that it was precisely and especially in cases of epilepsy associated with uterine derangements that the bromide of potassium was efficacious and the bromide of ammonium not so. Dr. Fitzpatrick had found the most benefit from its use in the minor form of the disease, in those cases which merely occurred during sleep, or which were dependent on uterine irregularities in the female, or on seminal irritation in the male.

A Rapid Cure for Tape-Worm.—A. J. Schafish, of Washington, says, *inter alia:* I made no preliminary provisions further than to forbid the patient from taking any breakfast the day I intended removing the worm, and giving him a large dose of Rochelle salts the preceding night. At ten o'clock in the morning he had the following at one dose:

℞ Bark of pomegranate root, ½ ounce.
Pumpkin-seed, ½ drachm.
Ethereal extract of malefern, 1 drachm.
Powdered ergot, ½ drachm.
Powdered gum arabic, 2 drachms.
Croton oil, 2 drops.

The pomegranate-bark and pumpkin-seed were thoroughly bruised, and, with the ergot, boiled in eight ounces of water for fifteen minutes, then strained through a coarse cloth. The croton oil was first well rubbed up with the acacia and extract of malefern, and then formed into an emulsion with the decoction. In each case the worm was expelled alive and entire within two hours. No unpleasant effects followed.

One curious fact that I have noticed is, that in each case the worm was passed with the head firmly fastened to the side of its body, at about the widest part, from which it was with difficulty removed; also that the worm was twisted and doubled into various knots. In one specimen, only fourteen feet long, I have counted and untied no less than forty-seven of such knots. I have no doubt that, to escape the effects of the medicine, in his distress, he fastens himself to his own body, in this way loosing his hold of the intestines, and is driven forward with the other contents of the bowels.—*The Druggists' Circular.*

Local Anæsthesia by Sulphide of Carbon.—Dr. Charles Bernard (*Gaz. Méd. de l'Algérie*) mentions the case of an Arab of the plains of Mélidja, wounded in the plantar part of the left foot, near the heel, with glass, which penetrated. Six grammes of sulphide of carbon were poured, drop by drop, on the part, and made to evaporate quickly. In a minute's time the wound was enlarged and the extraction of a piece of glass two centimetres long was made, without the Arab experiencing any pain.

Another Arab had a large carbuncle on the left of the abdomen. Dr. Bernard made use of ten grammes of sulphide of carbon by the spray apparatus, and then made six deep incisions without any pain being felt.

Another medical man removed his wife's toe-nail, after Dr. Bernard had produced local anæsthesia. At first a sensation of great cold is felt, which disappears, and in two or three minutes the part is insensible.

On the Action of Chemical Substances on the Teeth.—Dr. J. Foster Flagg (*Dental Cosmos*, April, 1874) directs attention to the difference between the ordinary chemical action of acids upon such salts and organic tissue as compose tooth-structure, and that action which results in caries. Frequent and long-continued experimentation has failed, in almost every instance, to produce any result which could be considered as analogous to caries; and when, in isolated instances, teeth have been subjected to influences, either accidentally or designedly, which have proved adequate to the induction of a semblance of this disease, it has been found that either the concomitant of galvanism in some form might easily be indicated, or that microscopic research has proved the existence of such pathological conditions structurally as would indicate decided local predisposition to decay, if even the incipiency of actual caries had not been announced by decided 'tubular consolidation.' This latter has been invariably found in the comparatively limited number of examinations of this condition which he has been able to make.

In connection with all the various published results of experiments as to the effect upon teeth of an extended list of so-called injurious articles, embracing the many acids which are in daily use, such as acetic, citric, tartaric, malic, lactic, etc., together with sugar, meats, etc., we remark only the effects noted, day after day, of enamel so altered in appearance as to have lost its brilliancy, or at length so altered in structure as to be easily scraped away with the finger-nail, or again, of dentine and cementum so softened as to be cut or even bent; and yet no particular mention is made of the fact that these results were unlike caries in every particular.

Dr. Flagg has found repeatedly the most beneficial effects produced by the administration of medicines which, used locally in the seemingly accepted method of experiment, would be disastrous in the extreme; for example, nitro-muriatic acid will be recognized as eminently destructive of tooth-issue. He has not seen a case of dental caries which he could attribute to the use of any acid medicine, while he has again and again seen remarkably prompt cessation of dental tenderness and tendency to caries, resulting from local weakness of tooth-structure consequent upon long-continued biliary difficulty, from the administration of fifteen to twenty drops of nitro-muriatic acid daily.

It has for many years been accepted by observant dental practitioners that teeth are injured, to a certain extent, by the long-continued use of acid medicines; but it has also been noticed that the injury is general, that enamel suffers most of all dental tissues, that it loses its brilliancy and density of structure. The injury is not, he says, prevented by taking the medicine through a glass tube. He has taught that such injurious action as was liable to ensue from acid medicaments should be prevented by rinsing the mouth thoroughly, immediately after swallowing the medicine, with water, to which had been added a few drops of solution of ammonia, or a small quantity of bicarbonate of soda.

Solutions of alum are injurious in a general way only; acting more or less severely, according to frequency and continuance of applications and strength of the solutions; these roughen and soften the enamel, and necessarily accelerate the progress of decay in already formed cavities, but never seem to cause decay of the teeth in the circumscribed and localized manner which pertains to dental caries.

Powdered Meat.—Powdered meat is prepared by Dannecy, *pharmacien en chef* of the hospitals of Bordeaux, by finely chopping the fresh meat, spreading it upon muslin, and drying it rapidly in a current of air. A friable mass is formed, which readily yields a brown, nearly odorless powder, possessing a feeble saline taste, and of which one part represents five parts of fresh meat. It is used and readily taken by patients by adding a teaspoonful to a cup of beef-tea or soup, or by spreading upon bread. For children it is mixed in certain proportions with the ingredients for biscuits.—*American Practitioner.*

The Betel Nut an Anthelmintic.—The inhabitants of Bombay grate the betel nut, as we do nutmegs, and give a teaspoonful of the powder, floating on milk, or mingled in clarified butter. It is given before breakfast, after the patient has fasted twelve hours, and it acts

without any adjuvant, bringing away lumbrici and tape-worms. It acts on dogs in the same doses.—*Medical and Surgical Reporter.*

Ergotin Injections in Prolapsus Ani.—Von Langenbeck, of Berlin, announces that he has lately been treating prolapsus ani "with astonishing success," by hypodermic injections of a solution of ergotin (five to fifteen parts to one hundred of distilled water). He replaces the bowel, and inserting the point of the syringe about three centimetres in depth in the cellular tissue, throws in from one to two grains of ergotin. This should be repeated every three or four days, for three or four weeks, any hard fecal masses in the bowels being first removed by a simple injection. As a means of treating a most obstinate and troublesome complaint, this method, sanctioned by so eminent a name, deserves careful repetition.—*Medical and Surgical Reporter.*

Phosphorus in Melancholia.—Dr. S. W. D. Williams reports six cases of melancholia treated with phosphorus, three of which resulted in recovery, two in partial benefit, and one in entire failure. In the latter case a cure was rapidly effected, after the withdrawal of the phosphorus, by means of opium. In each case the dose was one pill of one-thirtieth of a grain, twice daily, increasing to three or four pills daily. No toxic effects were observed except a slight warmth in the epigastrium.—*Journal of Mental Science.*

The Hypodermic Injection of Quinine in Typhoid Fever.—Dr. Ravicini, writing in the *Rivista Clinica di Bologna*, January, 1874, recommends the hypodermic injection of quinine in the treatment of typhoid fever. He makes a solution of 5 grammes of sulphate of quinine in 50 grammes of distilled water, and adds 10 centigrammes of hydrochlorate of morphia. With this solution he makes, early in the morning, by means of a Pravaz's syringe, two injections, each of 85 centigrammes; two others at noon; and two in the evening. He keeps the patient under the influence of the medicine for several days, accompanying the disease in all its phases.

Under this treatment, he says, the sordes disappears from the mouth and teeth, the headache, meteorism, and gurgling in the right iliac fossa are greatly diminished, the spleen is reduced in size, and the countenance becomes more composed. He does not believe that the quinine at once cuts short the course of the disease, but that it favors its disappearance, since he has seen nearly all his patients convalescent at the end of the second week, or at most, of the third. It is only when the disease has not been treated from the beginning, that it has been prolonged beyond the third week.

The morphia he believes to moderate the symptoms of nervous disorder which are so constant in typhoid fever.

Peltier on Trimethylamine in Acute Articular Rheumatism.—In an article in the *Progrès Médical* (1873–4) Dr. Peltier, of Sedan, analyzes the documents which have been published up to the present time on trimethylamine, and shows that this drug fulfils the three following conditions, which are those of acute articular rheumatism: 1. It diminishes and suppresses the fever. 2. It diminishes and suppresses the articular congestion. 3. It diminishes and suppresses pain. Of forty-eight cases treated by trimethylamine, twenty-two were cured in less than eight days; eleven in from eight to fifteen days; and one in from fifteen to thirty days; and eight were either very little or not at all influenced by the medicine. According to M. Peltier, no other medicine can lay claim to such results; and the cures will become more and more frequent when, instead of using trimethylamine, chlorhydrate of trimethylamine, of which it is easier to determine the dose to be given, shall be employed. The conclusions of the paper are as follows: 1. From a chemical point of view, it is preferable to use the chlorhydrate of trimethylamine as a therapeutic agent. 2. Physiologically, trimethylamine slightly stimulates the action of the skin, astringes the mucous membrane, acts as a sedative on the nerves, and a hyposthenic on the arterial system; it also seems to diminish the amount of urea in the urine. 3. With regard to its therapeutic action, trimethylamine has scarcely been employed in anything but acute articular rheumatism, in which it soothes the pain, removes the congestion of the articulations, and diminishes the fever. Taking everything into consideration, it seems to be the medicine which, up to the present time, has yielded the best results.

Mercury as a Cholagogue (*The Lancet*, May 2, 1874).—In a lecture on Functional Derangements of the Liver, Dr. Murchison expressed his belief that mercury and allied purgatives produce bilious stools by irritating the upper part of the bowel and sweeping on the bile before there is time for its reabsorption. He also added, however, that there are grounds for believing that, apart from its increasing the discharge of bile from the bowel, mercury exerts a beneficial action in many functional derangements of the liver, in whatever way this is to be explained. Patients of the greatest intelligence, suffering from hepatic disorders, constantly declare that they derive benefit from occasional or repeated doses of mercurials which no other medicine or treatment of any sort confers. It is not impossible that the good effects of mercury on the liver, and in some forms of inflammation, may be due

to its property of promoting disintegration. Mercury appears to have the power of rendering effused fibrin less cohesive, and so more easily removed by absorption than it otherwise would be. Modern physicians of high standing, and little likely to be accused of credulity as to the beneficial action of drugs, have thought that mercury is useful in croup, by causing a degradation and disintegration of the plastic membrane. If this be so, it seems not improbable that mercury, which from experiments we know to reach the liver, may, under certain circumstances, act beneficially by promoting, or in some way influencing, the disintegration of albumen. The remarkable effect of mercury on constitutional syphilis probably admits of a similar explanation. In whatever way it is to be explained, he considers the clinical proofs of the efficacy of mercury in certain derangements of the liver as overwhelming, and remarks that he says so the more advisedly because he was taught to regard mercury as a remedy worse than useless, not only in hepatic diseases, but also in syphilis; his present convictions having been forced upon him by experience.

Another Remedy for Whooping-Cough.—This time it is nitric acid, and its advocate is Dr. Berry, in the *London Times and Gazette*. He gives it in doses of from five to ten minims of the dilute acid every three or four hours.

Action of Preparations of Iron.—At a late meeting of the Therapeutical Society of Paris, M. Lebaigne laid before the meeting a paper on the mode of action of preparations of iron generally, and on dialysed iron in particular. A discussion ensued, in which M. Mialhe remarked that he had established the fact that all the salts of iron had the power of precipitating oxide of iron in the organism. When the acid of salt of iron is organic, it is oxidized; when it is mineral, it combines with the alkalies of the blood. In both cases, the oxide of iron is brought out. M. Mialhe could not see any motive for particularizing the oxide brought under notice at the expense of the others. All the compounds of iron which have the quality of precipitating their oxide into the blood are equally good; the phenomenon will take place with the chloride as well as with the sulphate of iron; and in this aspect all the compounds of iron will be equally successful. Doubtless all preparations are not equally useful in the hands of the physician; but the fact results from other reasons, rather physiological than chemical.

M. Delioux de Savignac did not consider that the remarks which had been read were sufficiently supported by facts in relation to elimination, and added that all the salts of iron are eliminated by all the pas-

sages, and especially by the urine. He had always discovered iron in that liquid. Entering on the question of preparation of iron, M. Delioux de Savignac said that he did not believe chlorosis was always cured by the administration of iron, however large might be the dose administered; but little remains in the blood, neither is it sufficient that the iron should remain in the blood; it must lodge in the globules, and it is further necessary that these should not diminish in number. It is, therefore, more a question of affording nourishment to the organism than supplying it with iron, and the ferruginous mineral waters, with the small quantity of iron they contain, are often sufficient for this purpose. M. Bucquoy remarked that he thought the best preparation of iron was that which agreed best with the patient, whilst M. Constantin Paul avowed his opinion that all the physiological explanations that can be given about preparations of iron are pure hypotheses, since we have no knowledge as to the manner in which the iron introduced into the organism acts.—*Gazette Médicale de Paris*, April 25, 1874.

ATOMIZED INHALATIONS.

The Paris Academy of Medicine has had a discussion respecting the therapeutic value of inhalations of atomized fluids, or sprays, that deserves attention. The debate originated in a report on the mineral waters and baths of France presented by M. Bourdon. In France several of the mineral waters are used not only for baths and drinking, but for application to the respiratory mucous membrane as sprays. It may indeed be said that it was in these establishments that the use of sprays first found favor. Rooms are fitted up for the purpose and filled with the atomized mineral water, the use of small apparatus being in reality a substitute for such rooms. We are, however, disposed to think that the use of the small apparatus is in many cases preferable to a resort to the establishments. It will be seen that it is to the latter the discussion at the Academy chiefly related.

M. Bourdon mentioned that atomized waters were used by Fontan at Luchon more than thirty years ago, and ten or twelve years ago the therapeutic uses of Luchon water, in the form of spray, were brought under the notice of the Academy. It was shown that the spray really penetrated by various experiments on animals, and on a woman whose trachea had been opened; but it has been contended that the composition of the liquids is changed, and no doubt gaseous constituents are decreased or lost.

From the debate that ensued, it is clear there is great divergence of

opinion in France as to the therapeutic value of sprays. Trousseau approved of them, as did others, and as do now Professors Gubler, Demarquay, Giraldes, and others. M. Ridoux, who is inspector at Eaux-Bonnes, says he has only used sprays for the fauces and first portion of the larynx. In pulmonary diseases he finds they fatigue the patients too much. He says in experiments on animals the liquid penetrates the trachea and bronchi because it is injected with force; but in human beings, in ordinary conditions, he does not believe the spray enters the deeper parts of the respiratory passages to such an extent as to be useful. He therefore does not attach much importance to spray in diseases of the lungs, and in this he was supported by MM. Durand-Fardel, Jules Guerin, and Colin. These authorities, however, distinctly admitted the value of sprays in diseases of the throat, and though they doubted their penetration far into the bronchi, acknowledged they had been proved to enter the larynx.

We think that English therapeutists will generally adopt a similar view. In diseases of the throat sprays are effectual; in many cases they are the best remedies for laryngeal disease, but the deeper the disease in the air-passages the less likely are sprays to be able to control it.—*The Doctor* and *The Canada Lancet.*

Cortex Rhamni Frangulæ as a Cathartic.—Mr. Giles, an English apothecary, recommends the bark of *Rhamnus frangula* for this purpose, and is quoted by *The Chemist and Druggist* as follows:—

"I think that I once took it experimentally, and found that it produced precisely the action attributed to it in your paper, read to the Conference in Edinburgh, viz., a natural movement of the bowels without drastic action. I have recommended it very steadily when occasion has offered, and the consequence appears to be that the few cases who require habitual laxatives and make a trial of the *Rhamnus*, stick to it pertinaciously. Some surgeons who have tried it tell me that it has answered in counteracting habitual constipation in a marvellous manner, when everything else seemed to lose its power. It appears to have tonic and aromatic qualities which stimulate the muscular action of the bowels, as distinguished from the cathartic effects produced by irritating purgatives through the influx of serum into the bowels, which latter action must necessarily be attended with debilitating effects. I feel that the *Rhamnus* fills up all that was wanted in purgatives in our 'Materia Medica,' which is now copious in that class of medicines, including aloes, colocynth (extract), and senna (syrup if well made). I entirely agree with your opinion, that it should be included in the Pharmacopœia, and will willingly support your suggestion to that effect." [See page 238.]

Galvanization of the Sympathetic in Typhoid Fever.—Glax (*Pester Med. Clin. Presse*, and *Medicin.-Chir. Rundschau*, March, 1874) states that, in thirty cases of abdominal typhus under his care, whenever the temperature in the axilla reached 102.2 Fahr., he placed the positive pole of a constant battery of twenty elements on the third cervical vertebra, and the negative pole "on the upper cervical ganglion of the sympathetic nerve," and found "in nearly all cases a remarkable fall of temperature in the course of some hours." Glax believes that in this way the temperature may be reduced.

Hypodermic Use of Alcohol in Cancer.—Another treatment of cancer has been brought out by Dr. Hasse, of Berlin. An account of it is given in the *Medicinische Central Zeitung*, February 18. Dr. Hasse injects, with a hypodermic syringe, pure alcohol, to which one per cent. of ether is added, not into the new growth, but around its edges, thus obliterating, he claims, the vessels, especially lymphatics, which convey the infection, and causing the atrophy of the growth itself. The pain is rather severe, but is much reduced by ice-bags, and lasts only about two hours. The injections are repeated every eight to fourteen days, and have no alarming reactions. He claims striking success in carcinoma of the mamma, and in cauliflower excrescence of the uterus, but has failed in epithelioma of the lip, which he attributes to the impossibility of obliterating by this means the large and closely adjacent coronary artery.

Fissures in Ano treated with Iodoform.—Dr. Francesco Parona (*Giornale Italiano delle Mal. Ven. e della Pelle*, October) gives his experience of iodoform in fissures of the anus, and strongly recommends it. He believes it acts in great measure as a local anæsthetic, "which allays the spasm of the sphincter during defecation, while it favors cicatrization by neutralizing the irritating effects of fecal matters which may remain on the ulcerated surface." It has also a direct healing action. Dr. Parona uses the iodoform as an ointment (one part to three of lard), and applies it on a small cylinder of charpie, of a size requiring but little force for its introduction. The charpie has the advantage that its filaments adapt themselves readily to the slight irregularities of the anal mucous membrane. The dressing is changed twice a day, and replaced after each motion, and in the majority of cases the pain and spasm caused by the fissure cease in a few days, and the patient is well in a relatively short time. Of four cases, of which details are given, the longest time was twenty days, while one of the patients had been ill four months previous to the treatment.—*Medical Times and Gazette.*

The Use of Sulphate of Cadmium in Acute Urethral Blennorrhagia.—After having ascertained that one of the best remedies for acute urethritis is the employment of injections of sulphate of zinc, frequently repeated in the proportion of one-third to one five-hundredth part, or most generally a fifteen-hundredth part, Dr. Gazeau has tried to substitute for it the sulphate of cadmium, which has a much more powerful action than the sulphate of zinc, its astringent action being more energetic and persistent. Dr. Gazeau employs in urethritis injections of sulphate of cadmium, varying from the thousandth to the eighteen-hundredth part. These injections, administered every two hours very rapidly, quiet the acute stage of blennorrhagia, which passes to the latent state. The treatment lasts from fifteen to twenty days.

During the first two days copaiba may be used in conjunction with this treatment.

In chronic blennorrhagia of some years' date, sulphate of cadmium is powerless. In certain cases, however, cures may be obtained by associating it with subnitrate of bismuth, according to the following formula:—

℞. Distilled water	100.00	grs.
Sulphate of cadmium	0.07	"
Subnitrate of bismuth	7.00	"

An injection of this should be used every time after urinating.—*London Med. Record.*

TREATMENT OF FUNCTIONAL DERANGEMENT OF THE LIVER.

Dr. Charles Murchison, in one of his Croonian Lectures, gives the following advice on this subject:—

First, in regard to *diet*, much more is to be expected from the careful regulation of diet than from physic. We ought to remember that the hepatic derangement of lithæmia may exist for years, and that it may be cured by a careful attention to diet only, but if neglected may go on to gout. Over-eating, especially of rich food, must be interdicted, and above all saccharine and oleaginous cooked dishes. Even bread may have to be given up by the patient. Any idiosyncrasy must be ascertained. A simple diet of stale bread, fish, tea, etc., will be found best. The derangement may be due to over-much both of nitrogenous and non-nitrogenous foods, and it may be necessary to order a minimum only of both kinds. The chief meal of the day may have to be taken in the morning. Diluents, such as the mineral waters, may prove useful. Even greater caution should be exercised in recommend-

ing alcoholic drinks, especially malt liquors; many patients under these circumstances do better without stimulants at all. Alcoholic drinks in amounts falling far short of affecting the brain, may undermine the health by their effects on the liver. The effect of sudden and complete abstinence is not so serious.

Secondly, a free supply of *oxygen* is, next to diet, highly important in the treatment of functional diseases of the liver. There is no doubt that exercise quickens the circulation, introduces more oxygen into the system, and operates beneficially on lithæmia. Observations have shown the value of sea-air, and patients with hepatic derangements and lithæmia will, especially under favorable circumstances, derive advantage from residence on the coast.

Aperients and cholagogues are of value in many cases, whether constipation is present or not. Aperients carry off not only bile but fluid from the intermediate circulation. The aperient salts are chiefly used. Certain other aperients have long had a reputation, as cholagogues, among which mercury stands pre-eminent. At the present day mercury has, however, lost much of its reputation, especially as a cholagogue. A practitioner gives a mercurial, and finds more bile in the stools and his patient relieved. A physiologist ties the common bile-duct, makes a fistula, and finds that less bile is discharged after the administration of mercury. The results of such experiments have indeed been contradictory. The general effect has been to discredit the cholagogue action of calomel very much. On the other hand, it has been urged that the results of such experiments do not apply either to man or to the diseased state of the liver. Now, much of the difference of opinion may be reconciled if we remember the osmotic circulation in the abdomen previously alluded to. A large proportion of the bile which enters the bowel is reabsorbed and carried back to the liver. Mercury and some other drugs produce bilious stools because they sweep away the bile before it is absorbed; and it is for this very reason that they are to be found at the bottom of Röhrig's list of medicines which increase the flow of bile from the common duct. It would appear, therefore, that mercury is a true cholagogue, and that more than if it were a mere stimulant of the liver, and thereby induced congestion. It may also act on the gall-bladder. But there is reason to believe that mercury is of use in other functional diseases of the liver unattended with biliousness. Patients suffering from such diseases continually confess this. Mercury may indeed be useful for the very same reason that it is useless in promoting the healing process, namely, by helping disintegration. It is perhaps for the same reason valuable in some cases of croup and in constitutional syphilis. Be this as it may, the clinical evidence in favor of mercury is overwhelming.

Podophyllin acts much like mercury, but it has probably some affinity for the small intestine, and gripes more than mercury. Jalap, senna, etc., are all valuable. Röhrig seems to consider them true cholagogues. Colchicum has some effect in this way; taraxacum probably acts mainly as a mild aperient.

Alkalies, next to aperients, are the most useful drugs in functional derangements of the liver, especially a combination of alkaline salts. The waters of Vichy, Vals, and Ems are valuable for the same reason. The beneficial effects of alkalies are not due to the neutralization of acidity or of lithic acid, but to their influence upon the pathological state on which lithæmia depends. The administration of alkalies in lithæmia is, as a rule, well borne, but it should be occasionally interrupted.

Chloride of ammonium, mineral acids, tonics, and opium may be used in these cases; but tonics should be given with the greatest possible caution, otherwise they may do more harm than good.

A New Treatment of Leprosy.—Dr. J. Dougall, officiating senior medical officer, Port Blair, Andaman Islands, has recently published a report of the results of his experience with Gurjun oil, an oleo-resinous product of the *Dipterocarpus lævis* and other allied trees, in the treatment of leprosy. In order to avoid complications and to test the remedy, no change was made in the diet of the lepers. Of the twenty-four cases under treatment during the past six months, Dr. Dougall says every one has been decidedly benefited; every ulcer, without exception, has healed up and has not broken out again. But the most marked benefit has been derived from those suffering from the anæsthetic form of the disease. The oil is administered internally, in combination with lime-water, and an ointment composed of the same ingredients is rubbed into the bodies and affected parts of the patients. In order to remove this ointment from their persons the lepers are directed to dust themselves over with a finely-powdered dry earth, and then proceed to a stream and thoroughly wash themselves; after which they take a dose of the remedy and rub it into their bodies. Possibly the dry earth, as a local application, may have been of service in these cases. Dr. Dougall gives a very graphic account of the marvellous improvement that has taken place under this plan of treatment. Men at Port Blair who had not been able for years to do more than drag out a miserable existence, are now able and willing to work, and every sore is quite healed. The time of observation, in his opinion, has been long enough to warrant him in stating that leprosy, both tubercular and anæsthetic, can be arrested, and the condition of the lepers greatly ameliorated by the use of this Gurjun ointment and oil.

Acetic Acid in Small-Pox.—The *Med. and Surg. Reporter* of March, 1873, contains a Report of Dr. Roth of his mission (by order of the Austrian government) to Upper Silesia, where small-pox was epidemic and very malignant among a peasant population, who herd together in huts, generally a single room for a family, sometimes ten to fourteen in number and uncleanly in habits, wearing woollen clothing from season to season. Acting on the theory of a yeast ferment as characteristic of the poison, Dr. Roth ordered two tablespoonfuls of common vinegar, with or without water, after breakfast and towards evening for fourteen days. For half-grown and feeble persons, one-half this dose. The result of the prophylactic treatment was favorable beyond his hope. Not a single fatality occurred even when the disease was quite developed, and eight out of ten of those exposed escaped the disease altogether, and the small number of the sick was but little affected; pustules were few and sequelæ *nil.*

Chloral in Varicose Veins.—Chloral possesses decided coagulating power on the blood. This property was first observed in 1870 by Prof. Luigi Porta. Since that time he has experimented in various ways with this drug, and has reached the conclusion that we have a new remedy for the radical cure of varix. By means of hypodermic injections he has treated and cured fifteen cases of varix of the leg. "He began by injecting fifteen grains, but gradually reduced the quantity to seven, and ultimately to five grains, and injected this quantity * * * into numerous points, for the action of the remedy is greatest when it is injected at many separate points. Each of these injections forms a coagulum, and the patient should remain at rest for a few days to prevent slight phlebitis. The coagula undergo absorption, and the veins atrophy, or if they remain patent they cease to be varicose.

Biliary Calculi Dissolved, by Chloroform.—Dr. E. Burd, of Lisbon, Iowa, recommends chloroform in treating cases of impacted biliary calculi, giving fifteen to thirty drops every half hour. He also uses Venice turpentine and ether as a solvent during the interval between paroxysms of the disease.—*Med. and Surg. Reporter.*

Injection of Hydrate of Chloral into the Veins in Tetanus.—The Surgical Society of Paris, at the meeting of May 13, discussed the merits of this method, proposed and warmly defended by M. Oré, of Bordeaux. The universal opinion was that such a measure, except in cases where no other mode is possible, is to be decidedly reprobated. M. Tillaux spoke very strongly against it after relating the case of a

girl who suffered from tetanus, and died either in spite of or through the injection of chloral into the veins. At first it appeared to answer in this girl's case, as much as one hundred and fifty grains dissolved in five drachms of water being injected. The patient seemed to revive, but in the night she became worse, and a second injection was undertaken by the house-surgeon. In the morning M. Tillaux injected the hydrate again, these three injections amounting to 300 grains of chloral. During the last injection the patient died, and the cephalic vein was found full of clots up to the axillary vein, which latter contained some as far as its junction with the subclavian vein. When it is recollected that Italian surgeons use chloral when they wish to obliterate veins, it is not to be wondered at that the above-mentioned clots are found. M. Oré, of Bordeaux, not only urges his method for the above purpose, but proposes to substitute injection of chloral into the veins for inhalation of chloroform when simple anæsthesia is required!—*The Lancet.*

Chloral in Obstetrics.—Prof. Playfair, of King's College, London, in the Feb. *Lancet*, says: "There is a type of labor very common, especially in women of a highly developed nervous organization, such as constitute a large proportion of our patients among the higher classes, in which I have found chloral especially valuable. In these, before the rupture of the membranes, and the complete dilatation of the cervix, the pains are very severe, but short and ineffective, chiefly limited to the back, and producing little or no effect in dilating the os. Hours and hours of really intense agony often elapse, until the patient is wearied and exhausted by her fruitless sufferings. In cases such as these, a common and very useful practice has been to administer a considerable opiate, so as to produce some hours of refreshing sleep, after which we expect the labor to recommence with fresh vigor and effect. The disadvantage of this plan, however, is that during the action of the remedy the labor is suspended, and much time is thus lost. If, however, chloral is administered instead of the opiate, the probabilities are that the same refreshing rest will be obtained without any suspension of the pains or protraction of labor. The character of the uterine contractions will be observed to alter; they will become steady and useful, but they are not suspended."

Rigidity and spasm of the cervix, accompanied by tenderness upon digital examination, can be treated with the most marked success by using this drug.—*Chicago Med. Jour.*

Tic-douloureux Cured by Ice.—Dr. B. M. Walker, of Plymouth, N. C., reports, in the April number of *American Journal of Medical*

Sciences, a case of a lady, aged sixty, who had been suffering at intervals for over five years, and under treatment, using various remedies and attending mineral springs with only partial and temporary relief.

Dr. W. read that Dr. Winternitz treated a case successfully by the local application of ice, and followed a similar course in this instance. The patient applied the ice directly to the seat of pain, which was in the fifth nerve, at the same time holding brandy in her mouth. Although the pain was regularly paroxysmal and intermittent, it never returned. The ice was kept to the part as long as it could be borne.

ON THE MODE OF ACTION OF IODINE AND ITS PREPARATIONS.

BY PROFESSOR SÉE.

Iodine may be made to enter the system through different channels, viz., the digestive tube, the skin, the mucous membrane of the respiratory organs, and the serous cavities. The digestive tube is the most certain and natural channel, and it is this which is mostly always taken advantage of. The tincture of iodine is scarcely ever prescribed internally—in fact, it possesses no advantages, but offers, on the contrary, certain inconveniences. If it remain in the stomach in the form of a tincture, it produces a caustic effect on the mucous membrane of the organ, but it always combines with a little soda or potash which it meets with in the stomach, and is converted into an iodated alkali. Hence it may be seen that those who administer iodine in its simple form are laboring under an erroneous impression if they imagine that the drug undergoes no change in the stomach.

The iodide of potassium should not be administered in the form of pills, as it is thus liable to produce a caustic effect on the mucous lining of the stomach; it should always be given in solution. And in prescribing this salt one should always bear in mind that the greater the quantity of liquid in which it is dissolved, the better the absorption. There is, however, a certain limit to the quantity of fluid to be employed, which of course a physician will not exceed, and which it is scarcely necessary to mention.

The skin has often been selected as the channel for iodine to enter the economy. In employing an ointment composed of iodine, in the proportion of one part to ten parts, in certain cases an effect is produced, in others nothing is obtained—that is to say, in certain cases iodine has entered the organism, in others it has remained on the skin. It is expedient to know under what circumstances the iodine has been absorbed. Divers explanations have been given to account for the

above facts. According to Professor Sée, two conditions contribute to the absorption of iodine: 1. To make iodine enter by the skin, the epidermis, which acts as a barrier, must be destroyed. To effect this, strong and repeated frictions of iodine ointment will have to be employed; but it is evident these cannot be continued, and a single friction would be perfectly useless. 2. In examining these facts, it is found that there are cases in which the epidermis has not been in the least affected by the frictions, and in which, nevertheless, the absorption of iodine might be proved. This would appear to be in contradiction to what has just been stated above, but it might be explained by the extreme volatility of this metalloid. When iodine is rubbed into the skin in the form of ointment, it is found in the mucous membrane of the lungs; whereas, when an ointment is made of an iodide, the latter is not found in the lungs, because it is not volatile, and does not contain free iodine. Thus it may be seen it is by the air-passages, and not by the skin, that the iodine entered the system; and in proof that this is the case, it is sufficient to leave a phial of iodine uncorked near one's self, and the latter will be absorbed without touching or putting it to the nose, for it is found in the secretions.

Quacks seem to have been aware of this phenomenon when they invented the sachets of the powder of iodine, iodized cotton, and iodized flannel vests which are to be worn next the skin. These divers agents possess a real therapeutic property; but the explanation of their action is the same as that given above—that is, the iodine they contain is absorbed by the air-passages, and not by the skin. If a piece of iodized cotton be placed on the arm, and covered with a watch-glass or a glass bell, nothing will be observed; but in a person who wears an iodized vest constantly, the iodine enters his economy, not by his skin, but by his nostrils.

Painting with the tincture of iodine has much the same action; we know to what extent this is now employed, and there is scarcely a pain, a case of scrofula or phthisis, in which it is not resorted to. In phthisical patients, the tincture of iodine externally has taken the place of blisters and cauteries; and the change is certainly to the advantage of the iodine; but its action is not that of blisters or cauteries. Here, also, the same explanation may be given of its action; but there is one effect which is scarcely suspected, and that is, when the tincture of iodine is sufficiently strong, or the painting too frequently renewed, the epidermis is destroyed. The iodine enters the fissures thus formed, and produces inflammation of the cellular tissue, as has been observed at post-mortem examinations. To produce a more direct action on the tubercles of phthisical patients, it would certainly be preferable to place an open phial of the tincture of iodine on a table near the

patient, as has been practised by M. Piorry, in order that the iodine may be inhaled.

Iodine baths are also intended to act on the skin. These baths, which used to be much lauded, are now seldom or never employed, as their efficacy is very much questioned. It has been asserted that after an iodine bath this metalloid has been found in the urine. In this case, how did the iodine enter the body? Not by the skin, but by the air-passages; and even then such a result cannot be obtained unless the bath-room be hermetically closed, and the patient remain in the bath some time.

Fomentations are also intended as a means of effecting the absorption of certain medicaments into the tissues. These substances are varied, according to the effect desired—such as the tincture of iodine, laudanum, belladonna, etc. As with frictions, a real effect is sometimes obtained with fomentations; at other times none. This depends on the state of the skin, which is different in different individuals. If the skin be soft and pervious, iodine and the other substances may be absorbed, but it is difficult to know when the skin is in a favorable condition for absorption and when it is not. There exists normally on the skin an oily coating, which opposes the penetration of the iodide of potassium. A soap-bath may remove this varnish, but it is immediately reproduced; and individuals who have greasy skins, whatever they may do, will never succeed in making their skin absorb the iodide.

The same may be said of baths composed of the mono-sulphuret of sodium. Little or nothing is absorbed unless the doors and windows are closed, for the sulphuretted hydrogen which is evolved is about the only active agent, as it is taken up by the respiratory apparatus. This would explain the superiority of the sulphurous waters—such as Luchon, Barèges, which whiten on being drawn—over those that do not whiten, as Amélie-les-Bains. Iodized baths owe their efficacy to the iodine being absorbed by the respiratory organs.

There are some natural iodated waters, but they are rare, in France: there are only those of Salins and Salies, in Béard, and it must be admitted that they are not very rich in iodine. In Switzerland they have the waters of Saxony; in Prussia, those of Kreutznach. These latter cannot be replaced; they are those that contain the most iodide and bromide of potassium combined. Nevertheless, the French might still avoid going to Prussia by utilizing hot sea-water baths. The sea water, and particularly the sea air, contain a certain proportion of iodine and bromine. But it must not be forgotten that this atmosphere does not extend very far, and that about 400 or 500 yards from the shore we get the breeze, but not the iodized air; to have the ben-

efit of this, one must remain the whole day on the beach, or what is still better, take up his residence on the sea-coast.

When iodine enters the economy it is easily detected, and is almost immediately found in the urine and in the saliva; but the whole is not found at once. The elimination of iodine takes place more rapidly when it is administered in the form of iodide; but in whatever manner it is given, when the iodine enters the blood it combines with the potassium contained in the corpuscles; and as the salts of potash are very diffusable, it is not surprising to find iodine in the urine almost immediately it enters the blood. Iodine remains in the economy longer than one would be led to suppose, judging from its facile elimination, and it is found in the saliva after its presence has ceased to be detected in the urine. The elimination of iodine is intermittent, and it has been frequently seen that an individual, who had been eliminating iodine that he had been taking, ceases to eliminate for some time, and then begins again to eliminate.

The same is the case with arsenic and mercury, particularly the latter. If you mercurialize a dog by friction, the animal may eliminate mercury during two months and a half, even three months with complete intermission. This tardy elimination may be explained by the fact that the drug does not remain in the blood, but in the organs.—*The Chemist and Druggist* from *The Med. Times and Gaz.*

Transfusion with Lamb's Blood.—In one of the last sittings of the Medico-Physical Society of Dresden, a report was given of sixteen cases of transfusion with lamb blood. Six of them, related by Dr. Ochme, have been conducted at the City Hospital; the others in the private practice of several physicians, Drs. Stetzner, Hirschfeld, and Bischoff. In the most of these cases the operation was made on account of tuberculosis pulmonum, in one case frequent hemorrhage of the stomach, in another there were indications of puerperal disease. The phthisical patients selected for transfusion were mostly those in whom the affection of the lungs was only in the first stage of development, while the general symptoms—anæmia, sleeplessness, and deficient appetite—were more prominent. The quantity of blood injected varied from sixty to one hundred and fifty grammes; the apparatus was constructed accurately as Gesellius uses it for this operation. The first symptoms that appeared after the injection of the lamb blood were very striking, sometimes even alarming. The temperature rose almost immediately to 40° Cels., frequently even to 41° and 42°. Intense dyspnœa, shivering, vomiting, and convulsions were observed in a great majority of the patients. All these symptoms, however, disappeared almost as suddenly as they had come forth, and the pa-

tients were able to walk back to their wards or homes. A remarkable symptom which ensued in nearly all cases within the next day or two after the operation was hæmaturia. This phenomenon has been explained by the admirers of transfusion as a consequence of destruction of human blood-corpuscles; but it seems much more natural to suppose that the blood-corpuscles of the lamb were destroyed in the serum of the human blood, just as it has been proved by experiment that the blood-corpuscles of the dog are entirely dissolved in the serum of human blood.

The effect of the operation was almost nothing. Regarding the phthisical patients, neither sleep nor appetite, nor any local symptom, showed the slighest alteration; the weight of their bodies within the first five or six weeks after the injection of blood decreased in the same proportion as before; the same result was observed in all the other cases. One patient (puerperal disease) died two days after the operation, but the autopsy afforded no reason to believe that the fatal end was due to the therapeutic measure.

It seems, therefore, that the wonderful tales related by Gesellius are not quite trustworthy, and that, if transfusion should be necessary as *ultimum refugium*, nothing but human blood ought to be used for the purpose.—*London Lancet.*

Action of Quinine on the Cerebral Circulation.—At a recent meeting of the New York Neurological Society a paper was read by Dr. Roosa, upon the Etiology and Treatment of the Diseases of the Internal Ear, in which he referred to the action of quinine as a remedy. He asserted that when given, where congestion of the internal auditory apparatus already existed, quinine would aggravate the disease, and, therefore, produce cerebral congestion.

Dr. Jacobi did not agree with Dr. Roosa, but contended that quinine produced cerebral anæmia, and therefore it was a proper remedy to administer in that condition of the auditory apparatus spoken of.

Dr. Hammond agreed with the first-named gentleman; but, in order to test his convictions, he experimented upon himself, assisted by Dr. Roosa. Before the experiment was begun, his ears and eyes were examined by the auriscope and ophthalmoscope, and found to be in a normal, uncongested condition. He then took quinine, with the results anticipated. The blood-vessels of the tympanum and retina exhibited marked congestion. A dog was also experimented upon. After trephining the skull, quinine was given. A tube was then inserted into the opening. At the lower end of this tube a very thin membrane had been placed, and in the tube a colored fluid. The apparatus being inserted into the skull so that the thin membrane would touch the

dura mater, a short time after the administration of quinine the fluid began to rise, and continued to rise for several hours; when, as the influence of the quinine began to disappear from the system, the fluid in the tube began to descend, until it finally settled down to its original position, showing most conclusively that the action of quinine upon the brain is to induce a greater amount of blood to flow into it, thereby producing congestion, and consequently leading one to infer that the theory of Dr. Roosa is correct.

[Subsequently, Professor E. G. Janeway examined the circulation in the meningeal vessels of a dog by means of a high power, and in the course of the examination administered to the animal a dose of quinine. No apparent change could be detected in the size of the vessels, or the amount of blood circulating in them.—ED.]

Treatment of Zona by Collodion and Morphia.—Dr. Bourdon, Hôpital la Charité, after having tried a great many local means for treating the above disease and checking the intense pain, has definitively adopted the following plan: Without opening the vesicles, he paints all the diseased surface with a combination of collodion and morphia—collodion one ounce, morphia eight grains. The mixture must be put on pretty thickly. The pain ceases from the second day, and at the end of seven or eight days, when the layer of collodion is removed, all the vesicles have disappeared, and there remains only a slight local redness.—*London Lancet.*

MATERIA MEDICA.

CORTEX RHAMNI FRANGULÆ.

Mr. Joseph Ince, writing to *The Chemist and Druggist* of June 15th, says:—

Knowing then from recent investigations that the rhamnus frangulæ bids fair to be a valuable addition to our list of purgatives, I venture to bring before the notice of the reader what is at present known respecting its introduction, its history, and its remedial application.

The rhamnus catharticus has long enjoyed a popular reputation: the botanical difference between that and the Alder Buckthorn (Frangula) is pointed out by Bentham, who describes the latter as growing in hedges and bushy places throughout Europe and Russian Asia, except the extreme north. In Britain rather more frequent than the common Rhamnus, but still rare in Scotland. Flowers in the spring or early summer. An elaborate analysis of the two barks is given by M. Gerber (*Pharm. Journ.*, vol. ix., p. 537, Old Series) and commented on by M. Binswanger. The inference drawn from the results obtained was that on the peculiar nature of the *bitter matter* depended the variation in medical efficacy.

That contained in R. Frangula was more of the nature of resinous than of extractive matter, and was very soluble in cold alcohol. The bitter matter of R. catharticus was crystallizable, soluble with difficulty in alcohol, but very readily in water; the taste also differed from that of R. Frangula, being not disagreeable but purely bitter.

The first memorandum on Rhamnus Frangula is a note from Mr. George Mennie, of Plymouth, who recommends it as an aperient (April 7, 1843). When Mr. H. C. Baildon made some brief remarks on Rhamnus Frangula, at Edinburgh, his suggestions, being very short, did not excite particular interest, but to that gentleman is entirely due the introduction of this bark. A Dutch friend, Mr. Baruchson, sent a small sample to Scotland for examination. Senna we well know, and children better, and it was claimed for the new aperient that it would act as an efficient purgative without the griping and nauseous qualities of that unhappy Alexandrian leaf. In Holland it

was in constant use, being there prepared simply as a decoction. The formulæ was:—

Cort. Rhamni Frangulæ..... ʒiv.
Aquæ Oj., decoque ad Oss.

Dose: Two or three tablespoonfuls for an adult, night and morning, occasionally.

I have tried it in that form with admirable success; but seeing that in private families few are sufficiently skilful to make an accurate decoction, and that in aristocratic circles none will take the trouble, I recommended a proof spirit tincture, but was anticipated by Mr. Giles, who proposed a liquor, the production of which was further improved by Mr. Baildon. One precaution, however, must be borne in mind. There are two classes of bark, the one obtained from trees of older growth, or from the thick part of the trunk; the other, "the bark of the younger trunks and the larger branches of the indigenous shrub, gathered in the spring." This description is taken from the "Pharmacopœia Germanica," and it is this latter variety that should alone be used. I have permission to quote the formula to which reference has just been made.

Liquor Rhamni Frangulæ.
(Black Alder.)

℞ Cort. Rhamni Frangulæ..... 60 ozs.

Exhaust by decoction (*more Giles*) and reduce to 320 fluid ounces.

Add—Rectified spirit..... 80 ozs.

Product, 20 pints.

Mr. Giles's process will be found in the "Year Book, 1873," p. 258. Its object is "to effect the exhaustion of a drug with the minimum volume of solvent by submitting it to successive contact with fresh portions of the menstruum."

Proceeding in this manner, the reduction is effected by careful evaporation in a water-bath to a suitable consistence. Mr. Baildon uses the same proportions, but prepares his concentrated decoction *in vacuo*, and then adds the rectified spirit. The liquor is exactly three times the strength of the ordinary decoction.

It is hardly needful to observe that the establishment of a non-drastic purgative in our Materia Medica would be a boon of no secondary order. Numerous experiments, medically conducted, have been initiated, and with satisfactory result.

Mr. Baildon would deprecate any remarks bordering on the nature of advertisement, and, therefore, confirmatory private evidence, however flattering, must be withdrawn. I hold in my possession, however, a report on the aperient qualities of Rhamnus Frangula, drawn up with

minute accuracy, which would show that, at least in some instances, the liquor Rhamni has proved marvellously effective.

The dose of liquor Rhamni Frangulæ is one dessert or table spoonful in a wineglass of water, night and morning as required. For children, in whose case its use is specially indicated, one teaspoonful occasionally in a little water. When the time comes for a new Addendum, I would venture respectfully to suggest that this bark, and the intrinsic value claimed on its behalf, should receive the attention of the Medical Council. It has made its way without adventitious aid, and already has been accepted as a safe, pleasant, and efficient purgative.

PROPERTIES OF THE LEAVES OF THE CASTOR-OIL PLANT.

Having noticed a crystalline deposit imbedded in the chlorophyll that separated during the preparation of a fluid extract of the leaves of *Ricinus communis*, which is used by some physicians in the United States as a galactagogue, Professor Wayne removed a portion for examination, and found the crystals to be nitrate of potassium. This would appear to be evidence that the salt existed as such in the leaves of the plant—a supposition which is confirmed by the fact that the leaves and stems burn with scintillation and crepitation almost like nitre paper. Pursuing the subject, he submitted the leaves to a careful analysis for the presence of a proximate principle. The analysis failed to show the presence of any substance having the properties of an alkaloid, but proved that they did contain a proximate principle crystallizing in square prisms and tables.

This was obtained by percolating the leaves with dilute alcohol, driving off the alcohol in a water-bath, to separate the chlorophyll and resin, and filtering. The tannic acid and much of the coloring matter were removed from the filtrate by repeated shakings with moist hydrated oxide of lead; the solution was then filtered, and evaporated to a syrupy consistence. This extract was exhausted with alcohol; and the alcoholic solution, upon crystallizing, yielded a pale-yellow crystalline substance that, upon being redissolved in alcohol and treated with animal charcoal, formed, upon a fresh evaporation, colorless crystals, prismatic and tabular in form. Submitted to suitable tests, they were found to be identical with the substance obtained by Professor Tuson from castor-oil seeds, and named by him "ricinin." Experiment led Professor Wayne to conclude that ricinin has no claim to be considered an alkaloid, as it has no action upon litmus paper and is not

precipitated by iodohydrargyrate of potassium. Yet it contains nitrogen, as is shown by the evolution of ammonia when it is heated with potash. It is soluble in alcohol and water, and has a bitter taste, resembling that of wild-cherry bark. The portion of the extract insoluble in alcohol was tested for glucose, but none was found.

Analysis showed that this peculiar proximate principle exists in all parts of the plant; also, that the leaves are very rich in nitrate of potash, and in alkalies and phosphoric acid. 500 grains of the leaves yielded 120 grains of ash, which was found to have the following percentage of composition:

Lime	33.40
Magnesia	6.20
Potash	27.15
Soda	2.12
Peroxide of iron	.70
Phosphoric acid	6.68
Sulphuric acid	2.90
Chlorine	1.63
Carbonic acid	16.20
Silica and sand	2.41
Loss	.61
	100.00

CHLOROMERCURATE OF MORPHIA.

At a recent meeting of the Pharmaceutical Society (*Pharmaceutical Journal*, April 11, p. 809), Mr. Martindale mentioned a difficulty that he had met with in dispensing a solution for hypodermic injection, consisting of hydrargyri bichloridi gr. viij., morphiæ hydrochloratis gr. iv., aquæ destillatæ ℥ j. The two salts were added to a little water in a test-tube, and dissolved by the aid of heat. On filtering and cooling, although more than four times the quantity of water was ordered that would have been necessary to hold either salt in solution separately, there was a large deposit of silky acicular crystals, due to the formation of a double salt of mercury and morphia. This is described by Watts as the chloromercurate of morphia, and has the composition represented in the formula—

$$C_{17}H_{19}NO_3 \,.\, HCl \,.\, 2Hg''Cl_2.$$

There are nearly corresponding iodo- and bromo-compounds of mercury and morphia. With the prescriber's consent, a mixture of seven parts of water with five of glycerine was substituted, but even out of this the salt crystallized in a few days.

The solution had originally been ordered by Mr. Berkeley Hill, for the purpose of trying whether the addition of morphia would lessen the pain and inconvenience which attends the subcutaneous injection of an ordinary solution of perchloride of mercury. This, however, was found not to be the case. In its place, therefore, was prepared a solution of the chloro-albuminate of mercury, from the formula of Mr. Staub (*London Medical Record*, vol. i. p. 278), but more concentrated. In this solution, excess of chloride of sodium and chloride of ammonium are dissolved with the perchloride of mercury, and added to a mixture of white of egg and water, the alkaline chlorides being said to prevent the combination of the mercury salt with the albumen. After a time, however, the solution became curdy—possibly because of its concentration—and Mr. Hill left off using it; but he informed Mr. Martindale that it caused less pain, and entered more rapidly into the circulation than the simple solution of perchloride of mercury. Mr. Hill's notes on the use of the two solutions are appended to the original paper.

KOEGOED, A HOTTENTOT DRUG.

At a meeting of the British Pharmaceutical Conference at Brighton, Mr. Keyworth brought forward a vegetable substance named koegoed (literally cow-good), an infusion of which is administered by the Hottentots to cattle and taken by themselves, when suffering from inflammation of the bowels through drinking brackish water. This substance has been identified by Mr. E. M. Holmes (*Pharmaceutical Journal*, April 11, p. 810) as the roots and procumbent stems of *Mesembryanthemum tortuosum*, a plant belonging to the natural order Ficoideæ. Besides being used as above stated it is chewed by the Hottentots as an intoxicating agent, and appears to possess narcotic properties which deserve further investigation.

Three other species of *Mesembryanthemum* are used medicinally by the Hottentots; but these have leaves of a different shape from those of koegoed, which are oblong-ovate, those of *M. acinaciforme* and *M. edule* being scimitar-shaped, and those of *M. crystallinum*—well known in this country as the ice-plant—being broadly ovate and amplexicaul. The expressed juice of the first two of the above-mentioned species is used extensively in South Africa in dysentery, as a gargle in malignant sore throat, and as a lotion for burns and scalds.

A Spurious Cascarilla.—Some cascarilla has recently been imported from Nassau, in the Bahama Islands, containing an admixture of spurious bark. This false cascarilla has been examined and de-

scribed by Mr. Holmes (*Pharm. Journ.*, April 11, p. 810). At first sight it strongly resembles cascarilla; but the periderm or outer layer of bark does not readily peel off, and is of a fawn color, not white. On the inner surface the bark is of a reddish tint, and is furnished with a number of straight, closely packed raised lines, which give it a striated appearance, the inner surface of cascarilla being smooth. The taste is not aromatic, but astringent, and almost without bitterness. The color is also of a more reddish tint than that of cascarilla. It yields an infusion and tincture darker in color than those of cascarilla. Treated with tincture of galls, the tincture becomes slightly cloudy, and with tincture of perchloride of iron it becomes almost black; but tincture of cascarilla is not altered in appearance by either of these reagents.

From the general appearance and microscopical structure of the bark, it seems probable that it may belong to a plant of the same genus as the cascarilla, and Mr. Holmes is inclined to attribute it to *Croton lucidum*, L. The bark of this plant is said to be used by the negroes of New Providence to mix with true cascarilla bark, under the idea that it improves the curative powers of the latter. It is known by the name of "false sweetwood bark," sweetwood being the name applied by them to the true cascarilla.

An Adulteration of Belladonna Root.—A sample of belladonna root imported from Germany has been found by Mr. Holmes (*Pharm. Journ.*, April 11, p. 811) to contain 50 per cent. of a malvaceous root, which he believes to be that of *Malva sylvestris*. The adulteration is an important one, as it would in this proportion reduce the strength of belladonna preparations one-half; but it is easily detected. Externally the two roots are very much alike, especially when the belladonna is in small pieces; but internally the structure and appearance are very different, belladonna having a very large meditullium and small cortical portion, while in the mallow the two are nearly equal. Also the fracture of belladonna is short, while in the mallow it is distinctly fibrous.

Uncertain Composition of Commercial Fluid Extracts of Cannabis Indica.—Mr. Henry W. Buchanan (Chicago *Pharmacist*) publishes the result of an examination of the various fluid extracts of Indian hemp, and finds that, of sixteen samples examined, the amount of solid extracts in 1000 parts varied from 100.25 to 23.00 parts—only six of the samples gave over 70.00 parts. The amount of resin varied from 74.0 to 17.5; and in one sample no resin whatever was found. The author made a standard preparation from the dried flowering tops of the plant, using alcohol as a menstruum. From this he obtained 101.00 parts of solid extract and 78.3 of resin.

An Adulteration of Arnica Root.—Mr. Holmes reports (*Pharm. Journ.*, April 11, p. 810) that he has recently examined two samples of "arnica root" received from Germany, one of which contained only 50 per cent. of the genuine root, and the other only 1 per cent. In both samples there were two or three kinds of roots; but the chief adulterant in both cases was identified as the root of *Geum urbanum*, an indigenous plant well known to herbalists in this country under the name of Avens, or Herb Bennet. The spurious drug may be at once recognized by the fact that it is not a rhizome, or prostrate stem, like arnica, but a root which evidently descends vertically into the soil, as it is surrounded on all sides by rootlets. In size it varies from that of arnica to five or six times as large, in some pieces appearing præmorse, and in others suddenly narrowed and elongated. The cortical portion resembles that of arnica in color, but the meditullium, or central portion, is of a purple tint, and presents a discoid appearance, two characters met with in but few roots. When the root is soaked in water the purplish meditullium swells up and loses its discoid appearance. The odor of arnica is distinctive, and the taste has a peculiar acridity, and an after flavor which may be likened to the odor of rancid cocoa-nut oil, whilst the taste of *Geum urbanum* is astringent and somewhat aromatic, faintly resembling that of cloves.

New Mode of Administering Raw Meat.—Dr. Yvon gives the following method of preparing a palatable mixture having all the virtues of fresh meat while possessing an agreeable taste:

Raw meat (fillet of beef)	250	parts.
Sweet almonds (charred)	75	"
Bitter almonds	50	"
White sugar	80	"

The mixture is to be rubbed up slowly in a mortar until a homogeneous paste is obtained, adding, from time to time a sufficient quantity of water to give a proper consistency. The amount of water may be so varied as to give a solid or a liquid mixture. The liquid, which is in the form of an emulsion, will slowly settle, but may easily be mixed again by shaking lightly. It may be preserved unchanged for a long time if kept in a cool and dry place. In order to render it more nourishing, the yolks of one or more eggs may be added.

APOMORPHIA.

In a recent article in the *Canadian Phar. Jour.* on some "New Therapeutic Remedies," the writer speaks of this substance as fol-

lows :—Hitherto we have been restricted to bases derived directly from the plant, and apomorphia is the first example of an alkaloid introduced into medicine which has been derived by decomposition from a pre-existing and well-known alkaloid, *i.e.*, it is a product, and not an educt.

The ordinary emetics are usually bulky in dose, uncertain in action, and are apt to produce depressing nausea and prostration, and apomorphia presents itself as a convenient and unirritating emetic, the one of all others which acts most speedily and with least trouble to the patient. It is prepared by heating morphia for two or three hours with excess of hydrochloric acid ; or similarly, from codeia, which is methylmorphia. The free base is unstable, and, originally white, turns green immediately on exposure to air. The hydrochlorate is more permanent, but even its watery solution begins to alter in a few minutes, and rapidly passes from an aquamarine tint to an emerald green color, and ultimately becomes opaque. The physiological effects of the colored solution are said to be similar to those of the recent solution, but it is less powerful, and is more irritating to the skin. One-thirtieth to one-twentieth of a grain is a suitable dose for hypodermic injection. A solution of one grain in two hundred minims of water is a convenient formula. Occasionally giddiness, cerebral oppression, and præcordial anxiety have followed its use.

Apomorphia offers special advantages in dealing with refractory children, insane people, or with adults in some kinds of poisoning, when coma or delirium hinder oral administration. The only drawback is its costliness, and at present 3 j costs £1—*i.e.*, 4d. a grain.

In illustration of its effects I will mention two cases in which I have employed it. Some time since I injected 1-30 gr. of apomorphia from a green solution into the arm of a woman at the Adelaide Hospital. In ten minutes the stomach turned without causing her pain or distress. On December 6th I injected 1-20 grain of apomorphia from a fresh solution into the arm of a patient suffering from spasm of the œsophagus, an affection to which he has been occasionally liable since an attack of cholera in 1867. He was of a peculiarly placid and unexcitable temperament. Five minutes after the injection the pulse had risen from 70 to 104, and he complained of a sensation of heat in the head and of nausea, which rapidly increased. In ten minutes he was inclined to be sick, but could eject nothing, and there was a sudden call to stool. The bowels were moved a second time in five minutes more: motions thin, copious, and very offensive. After the expiration of twenty minutes the pulse had fallen to 56 ; he was sleepy, pale, and felt and looked much prostrated. Within two hours he had completely recovered. No effect was pro-

duced on the œsophageal spasm, which was absolute and complete for a period of 122 hours, when the "stomach opened" after a long continuance of retching, and he was able to swallow some food.

Apomorphia is a striking instance of the assistance which scientific chemistry may, and does, lend to therapeutics, and it establishes another link between chemistry and medicine. Moreover, it evinces the radical alteration produced in the physiological action of a substance by instituting an apparently slight change in its molecular constitution. In this particular case, the withdrawal of a molecule of water causes such a rearrangement of the atoms that we obtain new and unlooked for results, for apomorphia, $C_{17}H_{17}N_2O$=morphia, $C_{17}H_{19}NO_3$, minus water, H_2O.

Emetia.—This substance is noticed in conjunction with the above, because there are only two bodies which can fitly be employed subcutaneously as emetics. As in the case of ergot, pure emetia, *i.e.*, the alkaloid, 15s. per 3 j., should be distinguished from the preparation sold in France under the name of "Colored Emetin," which is nothing but a brown extract, and is 12s. per ounce. Pure emetia is at least three times as strong as the impure, and is recommended as a safe, rapid, easy, convenient, and agreeable form of emetic. The dose by the mouth is from one-eighteenth to one-sixth of a grain, and subcutaneously one-thirtieth gr. (one in thirty of water, with a little sulphuric acid). Its solubility in water is 1 in 1,000. Its salts are uncrystallizable, and are very soluble in water.—*Ibid.*

ERGOTIN.

No better example than this can be brought forward of the confusion which results from the same name being applied to several distinct substances, or from a definite term being affixed to a body of unknown or uncertain composition. There are no less than three totally distinct substances included under the common designation, *ergotin*, viz., Wiggers' ergotin (1831), Bonjean's ergotin (1840), and Wenzell's ergotin (1864).

1. *Wiggers' Ergotin* is prepared by acting upon the spirituous extract of ergot, previously freed from fat with water, whereby the reddish-brown powder is left behind. It has a bitter taste, and is insoluble in water and ether, and with difficulty soluble in spirit. Like Bonjean's preparation, it is an impure substance. In doses of from 3 to 7 grains, it gives rise to a nauseous bitter taste, followed by a confused feeling in the head running on to headache, dilation of the pupils, fall in the pulse, and abdominal pain; 7 grs. caused a further sensation

of dryness in the throat, lasting for several hours. It costs 5s. per drachm.

2. *Bonjean's Ergotin*—Prepared by exhausting the watery extract of ergot with spirit of wine, and evaporating the spirituous solution. It is a brownish-red extract, with a peculiar odor of roast meat, and a sharply bitter taste. It is completely soluble in water and spirit, and is evidently a complex product. Its action appears to be similar to that of Wiggers' ergotin. Cost 1s. 6d. per ounce.

3. *Wenzell's Ergotin*—According to Wenzell, ergot contains two alkaloids, ecboline and ergotine, which can each be obtained as an amorphous, brown, feebly bitter powder, easily soluble in water and spirit, insoluble in ether and chloroform. The property of exciting contraction of the uterus is stated to reside in the ecboline, but this statement needs confirmation. These bases seem to rest upon a slender foundation, their relation to Wiggers' and Bonjean's ergotins is not determined, and, in short, as matters stand at present, it is impossible to give a satisfactory answer to the question—what is the active principle of ergot?—*Canadian Phar. Jour.*

Permanganate of Zinc.—A recent report of the Medical School of Berlin contains an account of the use of this salt for injections. It is stated to be more effective than sulphate of zinc. The following is the usual mode of preparing it: Permanganate of silver is thrown down by mixing hot concentrated solutions of permanganate of potash and nitrate of silver, and is afterwards levigated with a solution of chloride of zinc. The chloride of silver is then separated, and the permanganate of zinc is obtained by concentrating the solution cautiously. It will be seen that this is a troublesome and wasteful process; but the reporter has not yet been able to find one to replace it with advantage. To neutralize permanganic acid with carbonate of zinc, *sounds* easy, but this acid has an unpleasant habit of exploding when prepared in the usual way from the permanganate of potash. A modification, also, of the process for making this last-named salt has not given satisfactory results.

Permanganate of zinc is a dark-red crystalline powder, similar in its general properties to the potash salt. The maximum strength in which the reporter has heard of its administration is one grain in one ounce of water. Linen dipped into a solution of this strength is stained pink; but the color fades, within five minutes, to a light brown, hardly perceptible. The report already alluded to contains a pathetic account of how some manufacturer imported into Prussia, under the name of permanganate of zinc, a preparation which turned out to be sulphate of zinc colored with permanganate of potash. It is found by experiment that a mixture of one part of powdered sulphate of zinc with

two parts of permanganate of potash, makes an excellent imitation of the zinc salt, although a few drops of a solution of the chloride of barium exposes the fraud at once. Permanganate of zinc being at present sold at twelve times the price of the potash salt, the motive of the substitution is sufficiently obvious.—*The Chemist and Druggist.*

The Areca or Betel Nut as an Anthelmintic.—This nut, which has recently been made officinal in the *British Pharmacopœia*, is best known as a dentifrice and masticatory, very popular with the Orientals. In Bombay it is said to be used also with good effect as an anthelmintic.

The natives pick it off the tree, and *grate* it on an ordinary nutmeg grater. About a teaspoonful is administered, after the patient has fasted twelve to fourteen hours, either made up into a bolus with ghee (clarified butter), or floating on milk, the latter being the favorite method. It generally acts (without any other medicine being given) in about an hour after administration, and is efficacious for round as well as tape-worms. It is used both for the human subject and dog, in the same manner and dose.

Carbolized Resin-Cloth.—As an antiseptic dressing, Mr. Lund recommends the use of a carbolized resin cloth in the place of the ordinary cerecloth, the effect of the addition of resin being to neutralize the acrid properties of the carbolic acid, which still evolves an antiseptic vapor at the temperature of the body. He uses a very thin calico gauze, and the solution for its saturation is prepared as follows (*British Medical Journal*, Dec. 6, p. 654):

Carbolic acid crystals (melted).....	2 fluid ounces.
Castor-oil	2 fluid ounces.
Purified resin.....	16 ounces.
Methylated spirit.....	40 fluid ounces.

To the resin, liquefied by heat and removed from the fire, is added one-third of the spirit; when these are well-mixed, another third of the spirit, in which the oil has been previously dissolved, is poured in; and lastly, the acid dissolved in the remainder of the spirit is slowly added. The whole must be agitated until all the ingredients are thoroughly incorporated, and afterwards passed through a muslin filter to get rid of extraneous matters. If this plan be not adopted, the resin will concrete into a mass at the bottom of the vessel, and it will be extremely difficult afterwards to get it perfectly mixed. Thus prepared, the solution is of a dark color, clear, and free from any deposit, and can be kept unchanged for a long time in a well-corked bottle. The castor-oil is added that the cloth may retain its flexibility after the evaporation of the spirit.

To prepare the resin cloth a very cheap, thin, porous calico, or calico-muslin, is selected, known in the trade as "mulls;" it should be unbleached, and free from dressing. This is divided into strips of about nine inches wide, and six yards long. The strips are carefully folded so as to lie flatly in a tin box, made so as to receive the plates of a tincture press, or an ordinary copying-press, and having an aperture at the bottom of the box, with a tap so that the superfluous fluid can be removed and reused. The solution is poured over every layer of cloth successively, so as to wet every portion of it; next the pressure is applied, and the calico squeezed as dry as possible, then taken out and hung for a few hours in a well-ventilated, warm room, till all traces of smell and methylated spirit have departed. The cloth may afterwards be rolled up and kept in tin cases ready for use. It appears to be necessary to dry it thoroughly, as the presence of any traces of the methylated spirit is apt to cause irritation.—*London Med. Record.*

Artificial Vanillin.—A very important chemical discovery has recently been made in the laboratory of Professor A. W. Hoffman, at Berlin. He has produced from the cambium juice of certain trees of the *Coniferæ* order, a crystalline substance, to which he has given the name of vanillin. This vanillin is a perfect substitute for vanilla, and is a very remarkable addition to the series of the popular and economic triumphs of modern chemistry.

The Laughing Plant.—In Palgrave's work on Central and Eastern Arabia, we read of a plant whose seeds produce effects similar to those of laughing-gas. It is a native of Arabia. A dwarf variety of it is found at Kaseem, and another variety at Oman, which attains to a height of from three to four feet, with woody stems, wide-spreading branches, and bright green foliage. Its flowers are produced in clusters, and are of a bright yellow color. The seed pods are soft and woolly in texture, and contain two or three black seeds of the size and shape of a French bean. Their flavor is a little like that of opium, and their taste is sweet; the odor from them produces a sickening sensation, and is slightly offensive. These seeds contain the essential property of this extraordinary plant, and when pulverized and taken in small doses, operate upon a person in a most peculiar manner. He begins to laugh loudly, boisterously; then he sings, dances, and cuts all manner of fantastic capers. Such extravagance of gesture and manner was never produced by any other kind of dosing. The effect continues about an hour, and the patient is uproariously comical. When the excitement ceases, the exhausted exhibitor falls into a deep sleep, which continues for an hour or more; and when he awakens, he is utterly unconscious that any such demonstrations have been enacted by him.—*Boston Jour. of Chem.*

PROTECTION OF HYPODERMIC SOLUTIONS FROM CHANGE.

BY EDWARD R. SQUIBB.

It is supposed to be established by the investigations of Dr. Bourdon, M. Delpeche, M. Gubler, and M. C. Paul, that the growth of confervæ is the only cause of the changes which commonly occur in solutions of the organic alkaloids and their salts; and that these confervæ decompose the alkaloids and consume a portion of their constituents, so that the solutions become weaker as the growths increase. Various methods have been proposed and used to prevent these growths, but thus far none seem more simple or more effectual than the addition of one or the other of the phenols; and the crystallized carbolic acid is perhaps the most convenient if not the best of these. This carbolic acid being an irritant in proportion to quantity, and it being very important that solutions for hypodermic use should be as unirritating as possible, it becomes of some consequence to know how little of the protecting agent can be used with average success.

When such solutions are properly made, the smallest proportion of carbolic acid which will protect them from change is about one-seventh of one per cent.; but a proportion of one-sixth of one per cent. is practically better and safer in ordinary practice, and this latter proportion is unobjectionable in all known respects. To make these solutions with this proportion, the following formulas are suggested. First, to make a five per cent. solution of carbolic acid, which is useful for this and many other purposes:

Take of crystallized carbolic acid 10 parts, distilled water 200 parts. Weigh the distilled water in a glass-stoppered bottle, capable of holding one-fourth more than the sum of the quantities. Pour it carefully into the bottle containing the water, then shake the whole together until the carbolic acid is dissolved, and filter the solution through paper. Label it, "Solution of Carbolic Acid, five per cent." Of this solution, about fifteen minims in each fluid ounce gives a proportion of one-sixth of one per cent.

For solution of sulphate of morphia, of the strength called "Magendie's Solution:" * Take of sulphate of morphia, solution of carbolic acid five per cent., of each two parts; distilled water, a sufficient quan-

* The original "Magendie's Solution," as given in "L'Officine de Dorvault," p. 242, is 1 part acetate of morphia in 40 parts water, or about 16 grains in 640 grains of water. As used in the United States, however, it is made from either acetate, muriate, or sulphate of morphia, and in the proportion of 1 part in about 23½ parts water, or 16 grains in a fluid ounce (of 455 grains) of water.

tity. Dissolve the sulphate of morphia in about 50 parts of distilled water, add the solution of carbolic acid, filter through paper, and pass distilled water through the filter until the filtrate weighs 57 parts.—Condensed from *Proceedings Am. Phar. Association*, 1873.

SOURCE AND MODE OF COLLECTION OF GAMBOGE.

The following remarks occur in a letter accompanying eight cases of specimens, presented by Robert Jamie, Esq., of Singapore, to the Pharmaceutical Society's Museum, Edinburgh. It will be seen that the mode of collecting gamboge is quite different to that usually given in works on Materia Medica, but we judge there can be no doubt of the reliability of the account. There is also a difference in regard to the localities. According to Mr. Jamie, neither Siam proper nor Cochin-China proper ever produced gamboge. The Siamese and Cochin-Chinese, at various times, wrested from the Cambogians portions of their territory; and it is from those conquered portions of Cambogia (as well as Cambogia) that the gum resin is prepared for exportation, Saigon and Bangkok being the principal places now of export, though, in former years, the greater part if not all, came from some seaport of Cambogia. At present, Kâmpoh is the only seaport left to the Cambogians, and what little they now export comes from it. Cambogia, then, is the native place of the gamboge tree, and there it may be said to be indigenous, for the trees there flourish most luxuriantly, without attention or cultivation, in the dense jungles; they must be propagated by means of birds, monkeys, mustangs, and such-like animals, for no trees are ever planted. The best time for collecting the gum resin is a little time after the wet season is over (that season is from about the middle of June till the middle of October), say from February to the end of March, but it extends more frequently till after April, as March and April are very hot months, and the exudation from the trees is not so watery then. When the trees are fit for wounding,—and they are so when their trunks vary from the size of a man's thigh and upwards, the larger the better,—they are wounded by means of a parang or chopping-knife, in various parts of the trunk and larger branches, when prepared bamboos are inserted between the wood and the bark of the trees, to hold the juice as it flows from the wound. After tying the bamboo cylinders to the trees, for they are tied as well as inserted, they are left there and examined daily till filled, which generally takes from fifteen to thirty days, and sometimes longer, the length of time filling depending on the flow of juice and the size of the bamboo cylinder. When no more is seen exuding, the cylinder and its contents

are removed, a fresh wound made in some other part of the tree, and the cylinder reinserted and tied as before; the same process is repeated till the bamboo cylinder is filled, when it is taken to a fire, over which it is gradually rotated till the whole of the water in the gum resin is evaporated, and it gets sufficiently hard to allow of the bamboo being torn off, when it is ready for the commercial world, and, as thus prepared, shows the striated appearance of the bamboo very distinctly.—*Canadian Phar. Jour.*

CAMPHOR.

The camphor of commerce, it is well known, is the produce of Camphora officinarum Nees., a tree of China and Japan. To obtain it the wood is cut up into pieces and boiled in water, when the camphor is deposited. It is afterwards purified by sublimation, and further refined after its arrival in this country. Immense quantities of this article are imported from Singapore, and though so valuable in European commerce, in Sumatra and Borneo a much higher value is put upon that known as Sumatra camphor, which is obtained from Dryobalanops aromatica Gaert. (D. camphora Coll.), which does not come to this country as an article of trade. Besides these there is a third kind of camphor, known in China as Ngai camphor; this, in point of value, stands between the ordinary commercial article and the Malayan or Sumatra camphor. Its botanical source has for a long time been doubtful, but it has generally been attributed to an unknown species of Artemisia. Mr. D. Hanbury, however, who has done so much in clearing up doubts on the botany of many of our important articles of trade, more especially in relation to drugs, has recently, in a paper read before the Pharmaceutical Society, identified the plant with Blumea balsamifera D. C. It is a tall, herbaceous plant, and has long been known for the powerful smell of camphor emitted from the leaves when bruised. It is common in Assam and Burma, and indeed throughout the Indian islands.

The materials from which Mr. Hanbury has been enabled to solve the problem of the origin of this peculiar camphor were sent him from Canton, and consisted of a small branch of the plant and specimens of the camphor itself. These specimens, he says, "represented two forms of the camphor—the one a perfectly colorless crystalline substance, in flattish pieces as much as an inch in length;" the other, which was sent as crude camphor, was a crystalline powder of a dirty white color, mixed with some fragments of vegetable tissue. "The purer sample has an odor scarcely distinguishable from that of ordinary camphor;

but the odor of the other is perceptibly contaminated with a smell like that of wormwood." This camphor, though seldom seen in this country, was at one time attempted to be brought into commerce, one hundred pounds of it having been made in Calcutta. It is used in the East both in medicine and in the manufacture of the scented Chinese inks. It is stated that "about $15,000 (£3,000) worth is annually exported from Canton to Shanghai and Ningpo, whence it finds its way to the ink factories of Weichau and other places."

Though it is now proved that B. balsamifera is the plant yielding the bulk of Ngai camphor, it is not improbable that some other plants lend their aid, for the term "Ngai" is, it appears, applied to several belonging to the Labiatæ and compositæ.—*Nature.*

BITTERS AS BEVERAGES.

The State Assayer of Rhode Island has made a report which shows very effectually of what ordinary bitters are composed.

Dear Sir: I herewith submit to you my report on the various bitters sold in this market, giving, as you desired, their percentages of alcohol, and forming of them three classes:

Class First.—Those apparently manufactured for a beverage.

Class Second.—Those occupying a middle place between a medicine and a beverage. These are not as palatable as No. 1 though they may be drunk as a beverage, and like No. 1 are intoxicating.

Class Third.—Those whose medicinal properties or bitter taste render them unfit for a beverage.

FIRST CLASS.

This class contains alcohol as follows:	PER CENT.
Hostetter's Stomach Bitters	43.20
Baker's Stomach Bitters	40.57
Drake's Plantation Bitters	30.24
Sol Frank's Panacea Bitters	37.20
Mishler's Herb Bitters	36.80
Dr. R. F. Hibbaw's Wild Cherry Bitters	35.89
Rush's Bitters for the Stomach's "Sake"	34.30
Dr. Fisch's Bitters	32.16
Baker's Orange Grove Bitters	25.70
Speer's Standard Wine Bitters	25.49
Traveller's Peruvian Bitters	22.40
Dr. Clarke's Sherry Wine Bitters	22.40
California Wine Bitters	18.20
Dr. Wheeler's Tonic Sherry Wine Bitters	14.66

SECOND CLASS.

This class contains alcohol as follows:	PER CENT.
Atwood's Quinine Tonic Bitters	40.10
Dr. Holme's Golden Seal Bitters	34.24
Dr. Job Sweet's Strengthening Bitters	31.41
Webber's Strengthening Bitters	26.87
Flint's Quaker Bitters	22.99
Restorative Bitters	20.54
Luther's Temperance Bitters	16.68

THIRD CLASS.

This class contains alcohol as follows:	PER CENT.
Richardson's Bitters	59.14
Armington's Bitters	33.26
Davis's Bitters	30.50
Colton's Nervine Bitters	29.73
Dr. Warren's Bilious Bitters	29.60
Hartshorn's Bitters	27.35
Atwood's Jaundice Bitters	25.60
Puritan Bitters	25.60
Dr. Langly's Bitters	24.41
Dr. Hoffland's German Bitters	20.85
Oxygenated Bitters	19.23
Walker's Vinegar Bitters	7.50
Dr. Pierce's Bitters	6.36
Planett's Bitters	(Sample sour.)

Very respectfully,

H. W. Vaughan, State Assayer.

—*The Druggist.*

Saccharated Calomel.—C. G. Polk, M.D., writing to the *Phila. Med. Times* about this preparation, says: "About eight years ago, while on duty with the Seventh U. S. Infantry, I had some calomel with sugar rubbed together to facilitate its administration. About a month afterwards my hospital steward administered ten grains of this calomel to a soldier. Burning and intense pain in the stomach, with considerable nausea, followed. I administered albumen, with an emetic, and relieved the poor fellow. On testing the saccharated calomel, I found it contained both calomel and corrosive sublimate. If any one wishes to test this, let him mix the sugar and calomel, let it stand a month or more, mix with water, pour off the water, and add a little milk of lime to it, and the yellow tinge will become obvious, showing the presence of the bichloride. In the case referred to I tested the

unmixed calomel, and found it entirely free from the presence of corrosive sublimate." The *Chemical News*, Nov. 1, 1872, says: "G. Vulpius has been examining this subject, and finds that when calomel is mixed in powder with white sugar, or calcined magnesia, or hydrated carbonate of magnesia, or bicarbonate of soda, corrosive sublimate is formed in twenty-four hours. Rather large quantities are formed in powders composed of calomel, white sugar, and bicarbonate of soda."

Drops and Droppers.—The *Philadelphia Medical Times* has the following practical note on this subject:

"Having had occasion recently to keep a patient narcotized, and using the *deodorized* tincture of opium, we were astonished to find that the liquid disappeared from the bottle much faster than was to be expected from the number of drops exhibited. The phial used was the ordinary ounce-bottle of the apothecary. On dropping into a minim-glass, we found that it did not take, as usually estimated, one hundred and twenty drops to make up the drachm, but that *fifty-two* sufficed to do so. Deodorized—or, as it is sometimes called, denarcotized—laudanum differs from true laudanum in being largely a watery preparation; and although its strength is practically the same, measure for measure, as that of the older preparation, its power, drop for drop, is evidently twice that of the ordinary laudanum. Yet we think most of the profession are in the habit, as we certainly have been, of giving twenty-five drops as the usual dose.

"While on the subject, we take the opportunity of anathematizing those popular and plausible instruments,—the so-called 'droppers.' As is well known they consist of a pointed glass cylinder and a minute india-rubber bulb. Owing to the fineness of the point to which the liquid adheres, the drop is excessively small. Thus, using the deodorized preparation just spoken of, we found that one dropper gave one hundred and ninety-six drops, another one hundred and eighty-five drops, to the fluid drachm: in other words, the drop from the new apparatus was only one-fourth of an old-fashioned, honest drop. Evidently, if we are not to drop drop-doses, we must drop dropping from droppers."

A New Method of Administering Iodine.—M. P. Collas describes in the *Bulletin Gen. de Thérap.* of March 30 a new method of administering this remedy.

On account of its irritant action upon the organs with which it comes in contact, iodine is rarely employed in a free state. It must be dissolved in alcohol and administered with a certain degree of caution. In truth, the tincture should be given with a strongly alcoholic

wine to prevent precipitation upon the walls of the stomach, which would irritate them and infallibly produce vomiting. Moreover the tincture is of variable composition, for with time the iodine reacts little by little upon the elements of the alcohol and there is then produced hydriodic acid and hydriodic ether.

The attempt has been made to associate iodine with some organic matter, capable in its own resolution of delivering up iodine to the economy, as, for example, the iodide of starch. But this preparation is of variable composition—a grave inconvenience to the physician—and moreover its taste is rather disagreeable.

Pills of iodized albumen present the advantage that the iodine is combined in a constant and known proportion. The iodine is completely masked and its presence can only be recognized by destruction of the organic matter.

This albumen is prepared by agitating actively an albuminous solution with iodine in very fine powder or in solution in some appropriate vehicle. The mixture is at first highly colored, blackish-brown, but this color gradually disappears in several hours of contact, and the preparation no longer strikes the violet color with starch. The product is then desiccated under gentle heat, air bath, when it may be made in pilular mass. The dose is so arranged that each pill shall contain five *milligrammes* of iodine.

The experiments at the hospital Beaujon by Prof. Dolbeau have shown that iodine thus prepared has no bad effects whatever. The pills in the dose of five or six per day acted rapidly in the resolution of an hypertrophy of the thyroid gland. Iodized albumen seems to have the efficacy of cod-liver oil. It has been administered in cases of chronic osteitis, ganglionic engorgement, strumous keratitis, and in two cases of Pott's disease with congestive abscesses. It may be continued for several weeks without stomach trouble or other inconvenience.—*The Clinic.*

Adulteration of Drugs.—In some evidence taken by a Select Committee of the English House of Commons on the Adulteration Act, Mr. Horner stated that very few drugs were imported into that country in a state of absolute purity. A good deal of the adulteration or admixture took place abroad, in the process of collection or gathering. With regard to scammony, he mentioned that an article containing 80 per cent. of scammony was considered very good. Opium was also very largely adulterated; and he mentioned that there was a sale in the city that day of adulterated opium, which would be sold for about 7s. 6d. per lb., while good opium was worth 32s. per lb. Sulphate of quinine was formerly made from one bark (calisaya), but now chemistry had

advanced so much that there were a great number of other kinds of bark utilized; and if the use of such barks were prohibited the country would go without quinine, as the bark from which it is supposed to be got does not exist. He also stated that essential oils are greatly adulterated, especially since there have been no duties. He was not of opinion that these impure drugs should be prohibited from coming there; it would drive the trade away. There was a large consumption of opium in England, but not in proportion to the population. Mr. Hodgkinson said that drugs, generally speaking, were adulterated abroad. Prescriptions made up in one part of the country should certainly have the same effect as in another. Of late years there had been much more equality in this respect. The retail druggists, he said, were not in the habit of adulterating. Good country druggists could supply as good medicines as those in London. Mr. Carteighe said that there were some important chemicals and pharmaceutical preparations which deteriorated by being kept. He instanced prussic acid, which, unless kept in a sealed tube, lost its volatile strength; and there were certain articles, he said, in a druggist's shop which could not be dealt with fairly by a hard and fast law. If a person came into his establishment and asked for quinine he would not get quinine —he would get bisulphate of quinine—that was quinine *plus* something else. This was the cheaper and more convenient article, and generally ordered by medical men.—*The Doctor.*

New Test for Morphia.—Mr. T. B. Graves, before the British Pharmaceutical Society, describes the following extremely sensitive test for morphia: The alkaloid must be first separated from all extraneous matter. A minute portion of it is then heated with about six drops for pure sulphuric acid, to which is then added a very small quantity of pure perchlorate of potassium (perfectly free from chlorate). The liquid surrounding the perchlorate immediately assumes a deep brown color, which soon extends over the greater part of the acid. Warming increases the delicacy of the test. No other alkaloid gives a similar reaction.—*Boston Journal Chem.—Detroit Rev.*

Use of Glycerine in the Estimation of Tannin.—Mr. E. B. Shuttleworth says: "The estimation of tannic acid by means of a solution of gelatine is generally a tedious and troublesome process. The precipitate formed is so slowly deposited that, without resorting to a filtration almost as inconvenient, it is difficult to determine the exact point when a sufficient quantity of the precipitant has been added, as also to separate the precipitate at the close of the operation.

In order to ascertain the completion of the process, Wheeler* suggests that a tube, loosely closed at the bottom with sponge, be dipped into the solution; the filtered liquid which enters the tube is then tested with a further quantity of the gelatine solution. Muller† accelerates the clarification of the liquid by adding a certain proportion of alum. I have found that both these ends may be more easily accomplished by adding to the tannin solution a small quantity of glycerine. The precipitate by gelatine subsides more or less readily according to the concentration of the solution.

"As I have noted in a previous paper, the precipitation of tannin may be altogether prevented by employing a very large proportion of glycerine, so that it is probable that, in using a lesser quantity, a small proportion of the precipitate is retained in solution. In comparative examinations—and it is chiefly in this manner that estimations are made—this is of no consequence, as the loss may be determined when making the standard solution. Even with simple water the indications are not altogether reliable, and a certain allowance must be made, as the precipitate is not absolutely insoluble in water without the tannin is in considerable excess."

Balsam of Tolu.—The most important Continental writers on Materia Medica are at variance in their statements of the composition of Balsam of Tolu. Guibourt, Scharling, Riche, Girardin, and Lithé and Robin say that it contains benzoic acid, in addition to cinnamic; whilst Souberian (following Kopp) and Pelouge and Frenny affirm that cinnamic acid alone is present. M. T. Carles has recently shown, by a very simple experiment, that the latter statement is the correct one. Having had occasion to digest both the hard and soft kinds of Balsam of Tolu separately, in hot water, he obtained from each on cooling traces of a crystalline acid. After two crystallizations from alcohol and from water, he succeeded in verifying the identity and purity of the two products by taking their equivalents by means of a titrated alkaline solution, according to the ordinary method. The great difference in the atomic weights of the two acids (benzoic acid 122, cinnamic 148) permitted this to be done with ease. He found the equivalent of the acid obtained from hard balsam to be 148.85, and from soft balsam 148.4, leaving no doubt that the free acid of Bals. Tolu, whether hard or soft, is cinnamic acid solely.—*Chemist and Druggist.*

British Pharmacopœia.—A second reprint of the British Pharmacopœia with additions has just been published. The additions

* Mem. Chem. Soc. iii. 319. † Chem. Centr. 1859, 42. Watts' Dict. ii. 765.

comprise new remedies of importance, such as chloral hydrate, amyl nitrite; several new forms of medicines, such as chloroform water, mustard water, liquid extract of liquorice, solution of citrate of magnesia, phosphorated oil, phosphorus pill, compound scammony pill, compound powder of elaterium, syrup of chloral, etc., and three new tinctures, viz., tincture of fresh orange peel, tincture of larch bark, and ammoniated tincture of quinia. Areca nut, a valuable anthelmintic, and acetic ether, a most agreeable compound ether, are included among the additions. Tincture of larch bark has been found serviceable in certain bronchial affections, and an authorized formula for hypodermic injection of morphia is introduced.

A New Variety of Coffee has been exhibited on the Rio Exchange. It differs from the ordinary kinds in cultivation in that the berry is more spherical, and yellow instead of red. It was discovered at Botacuto, in San Paulo. The berry is said to be one-third richer in cafeine than the common descriptions.

Quantitative Analysis for Tannin.—M. Dumas showed an apparatus meant for the above purpose at a late meeting of the Academy of Sciences of Paris (March 9, 1874). It is said to act rapidly and with great ease. It consists of a glass tube containing an alkaline solution and atmospheric air. The substance to be examined, as to the quantity of tannin it contains, is introduced into the tube, the two ends of the latter are closed by means of stop-cocks, and the tube is well shaken. The tannin combines with the oxygen of the air to form a salt with the alkali, and a vacuum takes place in the tube. One of the stop-cocks is then to be opened in some liquid, and in noting the quantity of the latter which is drawn into the tube, we can calculate the amount of oxygen which has been absorbed, and consequently the quantity of tannin which the substance examined contained. In this way it will be found that the pods of the acacia contain 40 per cent. of tannin, chestnuts 60 per cent., oak-bark 76 per cent., and the yellow catechu, 77.—*The Lancet.*

Igasauric Acid.—To prepare this acid it is necessary to make an alcoholic extract of the beans of St. Ignatius, which is then distilled. The residue is dissolved in water and precipitated from its solution by acetate of lead. The lead salt is decomposed by sulphuretted hydrogen, after being suspended in water, and furnishes an acid which crystallizes when sulphuric acid is freely added to its concentrated solution. Igasauric acid has a raw and astringent taste. It is colored green by perchloride of iron and becomes a dingy violet when carbonate of soda

is added to the mixture. It reduces nitrate of silver. MM. Ludwig and Horhn, who have examined this substance, think that it resembles tannin.—*Jour. de Pharmacie et de Chimie.*

Cryptopine is the name of a new alkaloid of opium recently studied by Munck, of Berlin. This product resembles morphine in its narcotic properties, but it is more poisonous; causes loss of sensibility and motility and rapidly arrests the action of the heart. Its formula is $C^{12}H^{23}N^{5}$. —*Jour. de Méd.*

Chloral.—Dr. Oscar Liebreich has recently published a paper in the *Berliner Klinische Wochenschrift*, in which he calls attention to the important subject of the purity of chloral hydrate and the effect which its deterioration may produce on the patients to whom it is administered, and on its reputation as a remedy. The case, he says, is different from that of such a substance as quinine, the adulteration of which will only reduce, but not prevent, the proper action of the drug. With chloral, and other substances prepared by analogous chemical processes, the result of the manufacture may be the formation of compounds which, if administered, produce an altogether different result from that intended. The process of manufacture is one; and it seems that it is at least difficult to insure the purity of chloral if made in large quantities. Liebig himself, who discovered it, never attempted to make more than a few grammes at once; and Dr. Liebreich was so convinced, when he brought it into notice as a medicinal agent, that purity was necessary for success, that the first supplies were made under his immediate superintendence. At present it is manufactured in various places; and the result is that, in some parts of the continent, notably in Saxony and Switzerland, it has fallen into disrepute. Dr. Liebreich has made a collection of specimens of the drug used in cases where it has failed to produce its proper action, and possesses, he says, some horrible chemical compounds which he would not venture to give to a human being. He prefers the crystallized form of chloral hydrate as being the most stable. It may contain hydrochloric acid; this is no disadvantage if the proportion remains the same, but if it increases, it indicates that the formation of dangerous compounds may be going on. Sometimes the hypnotic action is increased; this he attributes to the production of chlorine compounds, which are more readily changed into chloroform than chloral itself is. An acid reaction, arising from the formation of trichloracetic acid, does not show that the chloral is unfit for use, though it weakens its action. In pure chloral this action is limited; while impure chloral is liable to the constantly increasing compounds—not trichloracetic acid—of a deleterious nature. Dr.

Liebreich remarks that the German *Pharmacopœia* is in error in fixing the boiling point of chloral hydrate at 95° Cent. (203° Fahr.). This, he says, is correct for anhydrous chloral; but the boiling point of chloral hydrate is not constant.—*Br. Med. Jour.*

On the Preparation of Pepsin.—M. Umney, commenting upon the pepsin now made officinal in the *British Pharm.*, says that it is imperative that the directions as to the washing be strictly adhered to; and, profiting by a failure he experienced, he would say that even the scraping of the stomach is a matter of importance. A material point seems to be the sufficiently light scraping, in order that the fatty matter shall not be removed with the viscid pulp.—*Phar. Jour.*, April.

A New Reaction of Alcohol.—M. Berthelot reports that in the presence of cold or lukewarm water benzoic chloride ($C_{14}H_5ClO_2$) is only decomposed with extreme slowness, but, on adding alcohol to the liquid, benzoic ether is immediately formed, and is thrown down in excess. The presence of this ether becomes apparent if a few drops of the liquor are heated with a solution of caustic potash; the chloride only is decomposed, while the ether remains unaffected. This reaction is very evident with a liquid containing one per cent. of alcohol, and allows us to dispense with distillation.

Opium Eating in the United States.—According to the *Cincinnati Gazette*, the use of opium as a stimulant is becoming pretty general throughout the United States. Women appear to be more addicted to the habit than men, and it prevails to a larger extent among the richer and better educated classes than among the poor. The Custom House returns show that the quantity of opium imported into the country (reaching now nearly 250,000 lbs. annually) is ten times more than it was thirty years ago, and it is the opinion of physicians and druggists that not more than one-third of the quantity is used for medicinal purposes.

Poulticing by Steam.—At a recent reception given by Dr. Horace Dolbell, Messrs. S. Maw, Son & Thompson exhibited an apparatus for poulticing by steam, which had been contrived by Dr. Dolbell. This was shown by a dummy figure, which was kept poulticed on various parts of its patient body throughout the evening. The poultices are of various shapes, according to the part of the body for which they are intended. They consist of vulcanized rubber bags, covered with felt, to either side of which is attached a tube for the ingress and egress of the steam. This tube may be supplied from a

tea-kettle, or from an apparatus especially constructed for the purpose, which should be heated on a gas-stove in order to regulate the temperature. Of course, it will be observed that the great advantage of these poultices is that a regular heat can be maintained for hours if necessary. It is a dry heat, but moisture can quite easily be adopted if required by keeping damp cloths under the bag, or by simply wetting the bag itself and covering with a cloth to prevent evaporation. The damp evaporation will thus, in like manner, be kept at an even temperature.

Chloralum has lately been declared by the Prussian Scientific Commission an undesirable disinfectant, on the ground that it is considerably inferior in strength to other disinfecting agents.

The Adulteration of Gum Arabic with Dextrine.—To detect this sophistication M. Mussat recommends the use of the microscope. A drop of glycerine placed on a glass slide is sprinkled with the suspected gum. If iodine water is now added, and the examination made with a low power, it will be seen that the particles of dextrine assume a dirty red color, whilst those of gum become yellowish. Dextrine generally betrays its presence by the peculiar odor which it gives out. This method is more practical than that which depends upon the use of ferric chloride, as indicated by M. Hager, whose process consists in moistening the suspected gum with a solution of this salt in such a way that the gum neither dissolves nor floats on the surface any more than dextrine does. The fragments of gum attach themselves to the bottom of the vessel, unlike the particles of dextrine.

Preservation of Essence of Lemon.—The addition of two ounces of water to each pound of essence of lemon insures its preservation, owing to the water producing coagulation and precipitation of the mucilaginous substances which cause resinification of the essence. Following this treatment the essence will preserve its odor for several years.—*The Pharmacist.*

Additional Notes on Pancreatin.—Dr. Richard V. Mattison remarks that numerous inquiries regarding saccharated pancreatin, its doses, uses, etc., having been instituted since the publication of his last paper upon the subject, induce him to present a few remarks further upon this remedy. It is a fine white powder, almost tasteless, or with the slightly sweet taste of lactin. When mixed with water it is perfectly soluble, dissolving in between five and six parts of that

liquid, and forming a perfect emulsion when mixed with liquid fats and a small quantity of water.

He suggests the following formula for the proper exhibition of cod-liver oil in combination with pancreatin:

Pancreatini sacchar.	℥ i.
Aquæ	f ℥ iv.
Sacchari albi	℥ vij.
Olei morrhuæ	♁ iss.
" gaultheriæ	gtt. xx.
" amygd. amar	gtt. v.

M.

Rub the saccharated pancreatin with the sugar and water in a mortar until a thick syrup is formed; to this add the cod-liver oil, in which the essential oils have been dissolved. This forms a perfect emulsion without difficulty. It separates, of course, upon standing, but can easily be shaken together again, forming an emulsion with slight agitation. This is certainly to be preferred to the thick mucilaginous emulsions made with gum arabic or tragacanth, which are usually distasteful to patients on account of their being so thick.

By the above formula a preparation can be furnished containing 75 per cent. of oil, in the condition in which the oil, as usually prescribed, enters the duodenum, thus rendering its absorption and assimilation by the lacteals comparatively easy, the molecular formation of the oil being completely broken up.

To make the emulsion whiter, a little lime-water may be substituted, omitting an equivalent quantity of water, or partial vaporification, rendering the emulsion more permanent and more elegant in appearance.

The easy assimilation of this preparation having been experimentally demonstrated by several eminent medical practitioners, it stands unrivalled, in a therapeutic point of view, as a standard pharmaceutical preparation of cod-liver oil.

The action of pancreatin upon albumen having frequently been stated, experiments were instituted in order to examine this action more closely. Two grains of saccharated pancreatin were dissolved in one fluid ounce of water, with the addition of six drops of hydrochloric acid. To this thirty grains of coagulated albumen were added, and the whole, kept at a temperature of 100° Fahr., being occasionally agitated. At the end of six hours about twenty-five grains were dissolved, thus showing the correctness of the usually received statement, and showing, at the same time, its great inferiority to saccharated pepsin, which, under similar circumstances, would have dissolved 120 to 180 grains.

The action of pancreatin upon starch was most observed, and a drachm of Bermuda arrowroot was mixed with a solution of ten grains of saccharated pancreatin in one fluid ounce of water, and kept at a temperature of 100° Fahr. for several hours. At the expiration of this time the mixture was filtered, and the filtrate tested for glucose, abundant evidence of the presence of this substance being afforded by Trommer's and Fehling's tests. That this glucose was the product of the action of pancreatin upon starch was demonstrated by testing the arrowroot, which gave a negative result, and by a comparative test with a solution of glucose, obtained by the above action of pancreatin upon arrowroot. Fifty minims of this solution, containing less than one grain of lactin, reduced the cupric solution much more readily than a solution containing ten grains of lactin, the purity of both specimens of milk-sugar having been ascertained before using.

Although the strength of saccharated pancreatin is given as "ten grains emulsify two fluid drachms of cod-liver oil," yet when ten grains are dissolved in one fluid drachm of water, and one fluid ounce of oil added, perfect emulsification was effected in a very few minutes.—*Pharmaceutical Journal.*

The Preparation of Pure Iron.—In order to obtain pure iron by hydrogen M. Crolas recommends, 1st, that the hydrogen should be purified; 2d, that the oxide of iron and the water employed should be deprived of any sulphur they may contain. For the first the author employs the process of MM. Dumas and Bousingault; for the second there are two methods, one of which is as follows: Take of protochloride of iron, deprived of the sulphate which it may contain, by means of chloride of barium, cause it to crystallize in order to separate the chloride of barium, which should be in excess, dissolve it in distilled water, and precipitate from solution by means of ammonia, which is free from sulphur.—*Jour. de Med.*

Mesquit Gum is obtained in Texas by exudation from the *Prosopis dulcis* and several of the same species, and is extensively employed in the manufacture of gum-drops and pectoral pastiles. The gum exudes from the trunk and branches, and is collected in great quantities, especially in Bexar County, where the annual production has reached the value of $60,000.—*Jour. de Pharm. et de Chim.*

Explosion and Ignition by Permanganate of Potash and Sulphuric Acid.—According to a series of experiments by Böttger, a mixture of two parts of perfectly dry permanganate of potash, with

about two to three parts by weight of concentrated sulphuric acid, will frequently cause most violent explosions with, and subsequent ignition of many substances, especially volatile oils, on contact with them at ordinary temperatures, as by placing ten to twelve drops of such an oil in a capsule, and stirring into it as much of the mixture as will adhere to the end of a heavy glass rod. Such explosions will occur with oil of thyme, of mace, of cinnamon, of rue, of cubeb, of lemon, of marjoram, and of spike, and with rectified oil of turpentine. Simple ignition, without explosion, occurs with oil of rosemary, of lavender, of cloves, of rose, of geranium, of gaultheria, of caraway, of cajeput, and of bitter almonds, and with rectified petroleum, especially if a small quantity of the oil is dropped on bibulous paper, and then brought in contact with the mixture. At times, however, from unknown causes, explosions have also taken place with these, so that great care is necessary in experimenting with them. Alcohol, ether, wood-spirit, benzole, and bisulphide of carbon ignite instantly, without explosion. Dry blotting-paper begins to glow with the evolution of red fumes, and cotton ignites. Gun-cotton and gunpowder are, however, unaffected. Ordinary illuminating gas was also ignited by it. By triturating perfectly dry permanganate of potash with dry gallic acid ignition with scintillation occurred, and by trituration with tannin ignition with flame.

TOXICOLOGY.

TOXOLOGICAL ACTION OF ATROPA MANDRAGORA.

Dr. Benjamin W. Richardson, writing in the January number of the *British and Foreign Medico-Chirurgical Review*, says: "We have ourselves made some new observations on the action of mandragora, a substance the study of which has been untouched for many hundred years, but which once, and indeed, through many hundred years, in a still remoter time, was more experimented with and observed upon than perhaps any other poison and medicine. Dioscorides tells us of a draught that may be given to human beings before they have to undergo the pain of the surgeon's knife, or the cautery, and, later, Pliny gives us the formula for such a draught, which not only had the repute of a power to annul pain, but was believed to possess the property of causing a sleep so long and deep, that in the borrowed likeness of death, life might yet be existing. The physician, the poet, and the historian alike dwell on this poison. Juliet drinks it.

"The substance that was thus potently employed was the root of the Atropa Mandragora, a solanaceous plant growing in the isles of Greece, in the Levant, in Spain, and in Italy.

"Dioscorides, in his description of this plant, says: 'Some persons boil the root in wine down to a third part, and preserve the decoction, of which they administer a cyathus (rather more than an ounce and a half), in want of sleep, or severe pains of any part, and also before operations with the knife, or the actual cautery, that they may not be felt.' Further on he says: 'A wine is prepared with the bark of the root, without boiling, and three pounds of it are put into a cadus (about eighteen gallons) of sweet wine, and three cyathi of this are given to those who require to be cut or cauterized, when, being thrown into a deep sleep, they do not feel any pain.' Dioscorides adds, referring to a kind of mandragora called morion, that a drachm of it being taken as a draught, or eaten in a cake or other food, causes infatuation, and takes away the use of reason. The person sleeps without sense, in the attitude in which he ate it, for three or four hours afterwards. Medical men also use it when they have to resort to cutting or burning. Pliny remarks that the juice of the leaves of the mandragora is more powerful than the prepara-

tions made from the root, and that some persons even die from a considerable draught, and that it has the power of causing sleep in those who take it. The dose is, he says, half a cyathus (six drachms). It is taken against serpents, and before cuttings and puncturings, lest they be felt. For these purposes it is sufficient for some persons to have sought sleep from the smell of the medicine.

"Speaking on the same subject, Apuleius says that, if any one is to have a limb mutilated, burnt, or sawn, he may drink half an ounce with wine, and whilst he sleeps the member may be cut off without pain or sense.

"Down to the twelfth century, the wine of mandrake continued in use. It was called mandragorides, and persons who took it were called mandrakes. It was believed that on recovering from its effects there was wildness of the senses and fear; hence the meaning of the saying, shrieking like mandrakes—

> "'And shrieks like mandrakes torn out of the earth,
> That living mortals,' hearing them, run mad.'

"With the revival of letters this use and application of mandragora passed away. The substance enters into none of our pharmacopœias; even the Persian medicine books do not retain it. Its ally, belladonna, gains and retains its place; mandragora is lost. We thought it might be worth the trouble to investigate, or reinvestigate the action of mandragora.

"For the first specimen of the root of the plant we were indebted to our friend, Mr. Daniel Hanbury.

"On obtaining the mandragora from Mr. Hanbury, we made with it a tincture, but the first essays were so negative we were inclined to consider the substance inert. The error was our own. We had used, as after-experiment proved, too strong an alcohol. The active principle of the substance is most soluble in water, as is the atropine of belladonna. The ancients made an infusion or decoction, and afterwards added wine, by which the solution was preserved, and in this procedure they were scientifically correct.

"After a time we made a tincture with weak spirit, letting the root, rubbed first into fine powder, remain in contact with the spirit solution several weeks. In this way a powerful tincture was obtained. A series of experiments were now carried out, every one of which confirmed the ancient observations. The result may be briefly condensed.

"The tincture, when administered either by the mouth or by subcutaneous injection, is a narcotic. In birds it produces a deep sleep and insensibility, very much as chloral does. When a tincture is

made from a good root, five minims of it, subcutaneously administered, are sufficient to produce sleep. The sleep lasts for an hour, and is broken by short and peculiar excitement and wildness, which lasts several seconds. The animal will now fall back again into a disturbed sleep, and then gradually recover. Ten minims of the tincture administered by the mouth produce similar effects. In large rabbits the dose required to produce an effect must be considerable—three drachms by measure. In them it induces very gentle sleep, which may extend over an hour, the awakening also being attended with some excitement, as if from a dream. If the tincture be given in a very large dose, the sleep passes into death. The death is due to congestion of lung and condensation of fluid in the bronchial tubes. The heart is scarcely influenced by the first failure of the respiration, and will continue to beat for several minutes—in one instance it beat seven minutes—after the respiration has ceased altogether.

"The muscular irritability remains long after death. We have excited it so long as an hour afterwards.

"On the human subject the agent has a very potent action. The tincture benumbs the tongue when a little is placed upon it, and the taste of the substance, with the peculiar sensation that is induced by it, lasts for several hours. We found a dose of twenty minims insufficient to produce comatose symptoms, but exceedingly potent in effect. It caused a desire for sleep, a sense of fulness in the vessels of the brain, a peculiarly enlarged confused vision, an exaggeration of sounds, and a curious restless excitability, akin to hysteria, perhaps, we might say, essentially hysterical. These symptoms were not removed for a day, and they left some lingering uneasiness and coldness longer. We noticed that, as after atropine, there was dilatation of the pupil from mandragora.

"There are yet many new facts to be ascertained in respect to this old physiological agent. It has yet to be discovered whether its effects are remedial in cases of poisoning by opium—whether an alkaloid can be obtained from it, and, if so, whether such alkaloid differs or does not differ from atropine. We have as yet been unable to make these inquiries, but we think it certain that the historical repute of mandragora for good or for evil is maintained. The action of the agent in producing deep and prolonged sleep, and in creating a kind of delirium which gave to it the character of

"'The insane root
That makes the reason prisoner,'

is most definite."

RESEARCHES ON SOLANINE AND SOLANIDINE.

Professor Francesco Selmi has presented to the Academy of Sciences at Bologna a description of his method of demonstrating the presence of solanine and solanidine in cases of poisoning by the first-named substance, so likely to be caused by the use of rotten or germinating potatoes. He states that solanine, in acid solution above the ordinary temperature, partially separates itself in twenty-four hours into solanidine and other products, an effect which would occur with almost a certainty in the intestines, and he therefore concludes that having made the research for the first agent, it is necessary to turn to that of the second. He has studied what were all of the most characteristic reactions for the discovery of solanine and solanidine, and has observed that although toxicologists already know something of solanine they are almost ignorant of the methods for recognizing its derivation. He proposes to determine the reactions of solanidine upon a plate of glass at a given temperature and condition, so as not to base the changes produced by the different degrees of heat and other causes, to examine with the microscope the products of these reactions, working so as to get safe results from small quantities, corresponding to fractions of milligrammes of the poisonous substance. He shows that when solanine is distilled for thirty-six hours with gastric juice it separates itself into two parts, generating its derivative. He extracts both the one and the other by means of alcohol and ether. He sought and found new special indications with which to develop them, and arrived at the following conclusions:

The principal reactions by which solanine may be recognized are: 1. The violet color which is generated by brominated hydrobromic acid. 2. The red violet color, produced by diluted sulphuric acid during concentration at a gentle heat. 3. The yellow cedar color, produced by nitric acid and an alkali. 4. The red color, caused by the successive addition of sulphuric, arsenic, or phosphoric acids. 5. The purple color which develops with traces of chloride of platinum. 6. A similar color, which is rendered manifest with phosphoric acid and traces of molybdic acid. 7. The formation of needle-shaped, long, stellate crystals, with brominated hydrobromic acid, after drying and treatment with water.

Solanidine may be revealed:—1. By the special form of the crystals of its hydrochlorate. 2. By the crystals of its hydrobromate. 3. By the warm yellow color made evident by nitric acid and a caustic alkali. 4. By the red color produced by phosphoric acid and traces of molybdic acid. 5. By the yellow orange color which is caused by the action of brominated hydrobromic acid upon evaporation to dryness.

The professor states that with due care it would be possible to detect minimum quantities of either substances.—*Ibidem* from *Annali di Chimica*, No. 2, 1873.

POISONING BY BLISTERING COLLODION.

Dr. Ernest Schwerin communicates to the *Berliner Klinische Wochenschrift* for November 3, 1873, a case of cantharides poisoning, the subject of which was a rather hysterical female, aged twenty-three, who had menstruated twenty days before, and except some nervous attacks, was in good health. A dispute with her mother threw her into a violent fit of hysteria. Her mother, in great alarm, seized a bottle which she supposed to contain a preparation of ether and valerian, and gave her fifteen drops or so on sugar. It was, however, a blistering collodion which she had taken, prepared by macerating one part of blistering fly with one of ether. The first effect was to relieve her, but in about an hour there was violent pain at the epigastrium, then cramps, and constant inclination to pass urine, with pains in the hypogastrium. Dr. Schwerin saw her about six hours afterwards. The patient was then trying to pass urine every minute; there was at times a sort of cataleptic condition, with glazy eyes, small pulse, and repeated vomiting. Opium, camphor, poultices, and almond emulsion were prescribed. Next day the urine, though free from blood, was highly albuminous. The tongue and throat showed signs of irritation. These symptoms continued slightly for two or three days. On the fourth day the urine was free from albumen, and the patient convalescent. There were never any erotic symptoms. Dr. Schwerin concludes from this that the old view of the aphrodisiac action of cantharidin is incorrect, and that Pallé (*Journal de Brux.*, Aug. 11, 1870) is justified in expunging it from the list of aphrodisiacs.

[The reporter has seen some cases of poisoning by cantharides; and, although all symptoms of erotomania were absent in some, males as well as females, in others this symptom was well marked. Doubtless much depends on the dose, and on the physical and psychical condition of the patient. In Dr. Schwerin's case the dose must have been very small. The true explanation of the discrepancy may perhaps lie in the fact, that cantharidin stimulates the whole genito-urinary tract, but that the urinary organs suffer most, and in some cases bear the whole brunt of the battle. There is a naïveté and straightforwardness in the narrative of some of the older cases, which has the ring of genuine metal about it. The curious reader may consult the cases by Duprest-Rony, Dr. Chauvel, Ambroise Paré, and others, quoted by Son-

nenschein in his *Handbuch der Gerichtlicher Chemie*, p. 266. There is also recorded in a somewhat scarce book called *Anecdotes du* 18^{me} *Siècle*, printed at London in 1785, an account of a ball given by M. le Comte de Sade, at which cantharides were mixed with the viands—particularly with some chocolate bonbons. This, although valueless as direct evidence, shows at least the current views of the day on the subject; it states: "Tous ceux qui en avoient mangé, brûlant d'une ardeur impudique, se sont livrés à tous les excès auxquels porte la fureur la plus amoureuse: les femmes les plus sages n'ont pu résister à la rage utérine qui les travailloit. Plusieurs personnes sont mortes des excès auxquels elles se sont livrées dans leur priapisme effroyable, et d'autres sont encore très-incommodées" (p. 214).—*Rep.*]—W. Bathurst Woodman, M.D.—*London Med. Record.*

A NEW ADULTERATION OF PORT WINE.

E. B. Shuttleworth, editor of the *Canadian Phar. Jour.*, writes: "Having recently had occasion to test a number of samples of port wine, I principally directed my attention to the detection of foreign coloring matter as affording the best evidence of falsification. On applying the test recommended by Lapeyrere,* five out of the fourteen samples examined gave colorations differing from the remaining nine. This test appears to be of some value, but I have no doubt that considerable experience is required before a definite and satisfactory conclusion can be arrived at. Filtering paper is saturated with a solution of acetate of copper, dried and dipped in the suspected wine. If genuine, a grayish rose-red color is produced. Logwood is said to give a distinct sky-blue, while other coloring matters give modifications of the original natural tint.

"On examining by the spectroscope the nine samples before alluded to, the spectra produced showed no special characteristics, and this would go to confirm the statements of Sorby † and Phipson,‡ who found that the coloring matter of the grape gave no absorption bands, but only a general darkening of the spectrum. The five remaining samples of wine gave decidedly different spectra, and one of them so peculiar that I was led to suspect the presence of fuchsine.

"A further examination by other tests rendered this fact unmistakably evident, and I have since ascertained that a mixture of magenta and a blue coloring matter known to the trade as azaline, are

* Jour. de Pharm. et de Chimie.

† Jour. of Microscopical Science, vol. ix., p. 338.

‡ Jour. of Chem. Soc., Feb. 1870

largely employed for the purpose of coloring cheap made-up wines. These colors are put up and sold by the dealers in wine and spirit doctoring materials, and are sold at exorbitant prices.

"In order to detect the adulteration, I have found the following method to be satisfactory, and very easy of application: To a portion of the suspected wine, placed in a test tube, add an equal volume of fusel oil; agitate well and allow the mixture to separate, when, if magenta be present, the supernatant layer will be more or less tinctured of a characteristic pink or purple color. Genuine port, when so treated, does not impart to fusel oil any of its color, so that the slightest coloration may be taken as certain evidence of adulteration. If amylic alcohol be not at hand, ether may be substituted, but does not answer nearly so well.

"Considering the dark color which factitious port must be made to assume, and the large quantity of such wine that is liable to be taken at one sitting, it is evident that the presence of these poisonous coloring matters might produce serious, if not fatal results."

Case of Mushroom-Poisoning.—Mr. Sadler, who was to have lectured to the North British branch of the Pharmaceutical Society in Edinburgh, was prevented from doing so by the following rather singular circumstance: While preparing for the Society his lecture on edible and poisonous fungi, he accidentally swallowed a quantity of the spores of a large species of puff-ball (*Lycoperdon giganteum*), and within the space of an hour and a half he was seized with severe illness, accompanied with violent pains. The violent symptoms could not be subdued until nine days after the first attack, by which time the patient was much weakened. Sir Robert Christison, Dr. Balfour, and Dr. William Craig, who have attended Mr. Sadler, are of opinion that the continued irritation was kept up by the fungus spores. Mr. Sadler, though now in a fair way of recovery, is still confined to bed. The giant puff-ball is edible in its young state, but its matured spores ought certainly to be avoided.—*British Medical Association.*

Poisoning by the Root of Phytolacca Decandra.—Dr. Rawlings Young, of Corinth, Miss., writes that he was called, on the 21st inst., to three children—nine, six, and four years old—poisoned by eating the root of the *Phytolacca decandra.* They ate this at 11.30 A.M., at 12 M. took a hearty dinner, and in an hour after commenced purging and vomiting. At 4.30 P.M., when he first saw them, the purging had ceased, but free vomiting occurred at intervals of twenty or thirty minutes; great dilatation of pupils; pulse rapid and very feeble; inspiration short and sighing. When completely aroused from their

narcotism they complained of intense epigastric pain, great thirst, and chilliness. The treatment consisted of hot baths, sinapisms, small doses of brandy frequently repeated; and they all recovered, though continuing to vomit until 6 A.M. the next day, and complaining of vertigo and epigastric tenderness for a day longer.

Caution to Druggists.—A mixture of chromic acid and glycerine is a formula which has recently been highly recommended in certain affections of the mouth, scrofula, etc. Dr. Mascarel takes occasion to warn druggists that when these two substances are vigorously rubbed up together the result is a lively explosion, an accident which can be averted by adding the glycerine drop by drop, and grinding slowly.—*Il Raccoglitore Medico*, No. xxxi. 1873.—*Boston Medical and Surgical Journal.*

Atropia-Poisoning.—Dr. T. H. Newland reports, in the *St. Louis Surg. and Med. Jour.* of June, a case of atropia-poisoning in an adult. One and a quarter grains were ingested; vomiting occurred about an hour and a quarter afterwards. One-fourth of a grain of morphia was given every twenty minutes, and two grains of carbonate of ammonia every ten minutes for two hours. Recovery followed.

Opium-Antidotes.—In the *Peninsular Journal of Medicine* for April, Dr. A. B. Prescott shows that the "opium-antidotes" of Dr. Squire and of Dr. Collins are simply preparations of morphia.

Poisonous Properties of Thalium.—At a meeting of the *Société de Biologie*, April 25, 1874, M. Rabuteau reported that experiments undertaken by M. Grandeau to determine the toxic power of thalium seemed to establish that it is more poisonous than lead, which result is in contradiction to the law formularized by M. Rabuteau, that the poisonous properties of substances increase in proportion to their increase in atomic weight. M. Rabuteau had repeated these experiments, and to him it seemed that the salts of thalium were not more poisonous than those of lead, but the more rapid appearance of the toxic symptoms was owing to the greater diffusability of the former salts.—*Le Bordeau Méd.*

Poisonous Properties of the Æsculus Pavia L.—Farmers in the South attribute to this the deaths which sometimes occur among their flocks, and Mr. E. C. Batchelor has made an examination of the seeds of this tree to discover the active principle. He has recognized the presence, chiefly in the kernel, of a "glucoside," resembling *hypo-*

castinine and *aphrodæscine*, and remarkable for its energetic action. It occasions stupor, and, later, tetanic convulsions. The kernels contain two and a half parts per hundred of this principle.

Poisoning from Liq. Plumb. Sub-Acetatis.—The *Revue de Thérapeutique* contains a case of poisoning by the use of liq. plumb. sub-acetatis as an urethral injection, in the treatment of gonorrhœa in a man twenty-three years of age.

Poisoning by Atropine.—A case of poisoning by atropine occurred at Vincennes, in which a patient took a collyrium by mistake—thinking that it was iodide of potassium, the mistake resulting from the pharmacist having repeated a prescription without the advice of the physician. The amount of atropine taken was four centigrammes. On the mistake being recognized the patient went directly to the pharmacist, who at once administered two drachms of Sydenham's laudanum in half a glass of rum. Nevertheless, symptoms of poisoning supervened, and physicians were summoned, who at once made hypodermic injections of morphine and gave opium by enema. At the end of five hours the danger had passed, and on the following day the patient was able to go out.

This case is reported in the *Padua Medical Journal* without the name of the author being mentioned, and follows a statement of a case observed in the clinic of Professor Richet, in which the poisoning resulted from the prolonged use of a collyrium by an old man. Cessation of the use of the collyrium was all that was required in this case, which was published in the *Gaz. des Hôp.—Revue de Thérapeutique.*

A Case of Camphor Poisoning.—Dr. Edward Pollak (*Wiener Med. Presse*) has been induced, by noticing the report of a case of camphor poisoning in a late journal, to publish the details of a case of this rare form of poisoning which came under his own observation. On the night of the 9th of May he was called to a patient, and upon his arrival found a woman lying upon her back in bed and tossing her hands and feet uneasily about. Her face was strikingly pale, the eyes bright and shining; there was a moderate tension of the entire muscular system, and in the lower extremities slight cramps. The skin was cool, but dry, the pulse strong and full, and beating 88 in the minute. The temperature was 38.4°C. A strong smell of camphor was perceptible in the expired air, and also upon that which was expelled by eructation. The patient was in full possession of her faculties, had vomited some warm milk which had been given her, and spoke in a low tone of voice. She complained of violent ringing in her ears, gid-

diness, oppression of the chest, a sense of fulness in the stomach, and from time to time of her legs falling asleep.

When the cause of her being in this condition was inquired into, it was found that the patient had taken two tablespoonfuls of camphor mixed with brandy and water. A short time after swallowing the dose she became unconscious, and after a time vomited five or six times, and among the matters which were thrown off in this way were found numerous pieces of camphor of the size of a pea or a grain of Indian corn. She had taken the camphor upon the advice of a female friend, with the object of avoiding any further increase in her family, as she already had four children. Dr. Pollak treated the case with irritating enemata and wine and coffee, and ordered the application of cold compresses to the head, and in a short time the patient fell asleep. She broke into a profuse perspiration, and passed a considerable quantity of clear urine which had a distinct odor of camphor. The perspiration had no odor except that usually noticed. The nausea and the subjective symptoms noted above speedily ceased, but for nearly three weeks the patient had more or less muscular weakness, giddiness, and gastric disorder, all of which symptoms, however, speedily yielded to treatment. The camphor did not effect the object with which it had been taken, for in due time the patient, then in full health, became for the fifth time a mother.—*Phila. Med. Times.*

PRESCRIPTIONS AND FORMULÆ.

A Palatable Drink of Castor-Oil.

Dr. H. T. Bond, writing to *The Druggists' Circular*, recommends the following plan of dispensing castor-oil and converting it into a palatable drink:

Pour into a tumbler about six drachms of syrup of sarsaparilla, add a small quantity (about twenty grains) of bicarbonate of soda, stir with a spatula, add about a teaspoonful of a saturated solution of tartaric acid, and again stir well; this produces a heavy viscid froth.

Pour down the side of the tumbler, so as not to mix with the froth, about an ounce of water; then add the oil. The whole is to be drunk without agitation. The water is at the bottom, the oil in the centre, and the froth on the top. The drink so prepared is said to be tasteless, and the oil is all taken, as, after dispensing, the glass can be washed clean with water, showing that no grease adheres to its sides.

For Scabies.

℞ Styracis liq., flor. sulph., cret. alb., ää ʒ ss.; saponis viridis, axungiæ porci, ää ʒ i.—M. This mixture is to be rubbed into the entire surface of the skin for three successive nights, especial attention being given to the gluteal region, penis, thighs, and hands. Upon the morning of the fourth day a bath is to be taken. —*Boston Med. and Surg. Journal.*

Villate's Mixture.

The original formula of this solution, as first composed by Villate, is as follows:

℞. Liquoris plumbi subacetatis, ʒ i.
Zinci sulphatis crystall.,
Cupri sulphatis crystall.. ää ʒ ss.
Aceti vini albi.....fl. ʒ vjss.

Dissolve the salts in the vinegar and add the subacetate of lead. Shake before using.

Dorvault, Bouchardat, and some other authors put ʒ viij. of vinegar instead of ʒ vjss.; but Dr. Notta does not think that this modification is of any advantage, and prefers Villate's original formula.

It is important that this preparation should be made as stated. Druggists very often substitute for the white wine vinegar a solution of pyroligneous acid, in which case the liquid acts like a powerful caustic, and the patient cannot bear its application. These two solutions can be very easily distinguished at first sight: when the pyroligneous acid is used, the solution, once settled, has a bluish hue; but prepared with the white wine vinegar it has a greenish hue. This is a capital point, for surgeons have noticed a great difference in using both preparations on the same patient. The pyroligneous acid solution has produced excessive pains and serious symptoms of irritation and inflammation.

[This very complex and unscientific fluid is warmly alleged by Notta, and by a great number of surgeons, to be of capital service as a topical application to cancerous surfaces or cavities of bones, chronic fistulæ, and the like. Dr. Railton, and recent American reports, speak very favorably of its use in diarrhœa. It should be diluted, in the first instance,

with two or three times its bulk of water.] —*Lond. Med. Record.*

Vehicles for Cod-liver Oil.

Considerable attention having been directed of late to the study of means for disguising the taste of cod-liver oil, we are tempted to insert one or two devices which will perhaps be new to many of our readers. M. Deschamps, of Avallon, suggests the substitution of cod-liver oil for olive-oil in making salad. M. Guichard speaks strongly in favor of adding small pieces of sardine to the spoonful of oil, and says that this procedure is very successful with children. The patient is very gradually led up to the point of taking the oil in this way. At first he is plied with the sardines alone, afterwards with the addition of the accompanying oil, and lastly the sardine-oil gives place to cod-liver oil. Another more recent method is to heat 400 parts of the oil in a closed vessel at 50° C. for fifteen minutes, with 20 parts of roasted and ground coffee and 10 parts of animal charcoal; after being left in contact for two or three days, with occasional agitation, the oil is filtered away, and is said to taste of coffee only. The following formula for a ferruginous syrup of cod-liver oil is much esteemed in Germany:

Powdered gum arabic.....	68 pts.
Distilled water.....	60 "
Syrup of lactophosphate of iron	180 "
Bleached cod-liver oil.....	250 "
Essence of bitter almonds..	6 "

A formula much used by M. Delpech contains the oil in a partly saponified condition:

Bleached cod-liver oil.....	100 pints
Powdered gum-arabic.....	50 "
Cherry-laurel water.....	20 "
Orange-flower water.....	20 "
Simple syrup.....	200 "
Calcined magnesia.....	4 "

M. Deschamps also recommends a cod-liver oil soap, to be taken in three-grain pills, but it is necessary to take 40 to 60 a day!—*The Chemist and Druggist.*

Styptic Collodium.

The Dublin *Medical Press and Circular* gives the following formula:

Tannic acid.....	2 ounces.
Alcohol.....	4 fluid ounces.
Ether.....	12 "
Canada balsam ..	1 drachm.
Pyroxylin	1 dr., 2 scruples.

Dissolve the tannin in one ounce of the alcohol, mix the Canada balsam in the ether, add the remaining alcohol, and in the mixture dissolve the soluble cotton.

Cacao Cream.

℞. Oleum theobromæ.....	16	ounces.
" ricini.....	96	"
" bergamii	6	drachms.
" limonis	1½	ounces.
" citronellæ	1½	drachms.
" lavandulæ.....	4	"
Spts. coloniensis, 95 p.c...	64	ounces.

Melt the oil of theobroma, warm the castor-oil, and mix. Dissolve the essential oils in the Cologne spirit. Fill the bottles two-thirds full with the first mixture, and fill balance of bottle with the perfumed spirit. This forms an elegant mixture for dressing the hair, and is quite popular with many. In very cold weather it becomes quite hard, but a little heat soon renders it fluid.—T. S. Glenn, in *Am. Jour. Pharm.*

A Test-paper for Urea.

A writer in the *Gazette Heb. de Chimie* describes a test-paper of this character. He allows urine to stand until it has entered upon the change known as alkaline fermentation. It is then filtered, and the filter paper is washed. By this means the globules of ferment are caught on the paper, and if this paper is immersed in a solution containing urea it quickly

induces the alkaline fermentation. By staining the paper with yellow turmeric, the brown color which the paper assumes after ten or fifteen minutes' immersion in a fluid suspected to contain urea may be regarded as proof of the presence of that body.

Inoffensive Sponge-tents.

Lawson Tait, F.R.C.S., in the *Medical Times and Gazette* of January 10th, recommends the use of a five-per-cent. solution of oil of cloves in the preparation of sponge-tents, as a means of rendering them inoffensive and obviating the danger of septic peritonitis from their use. He finds a tent thus prepared perfectly free from the usual disagreeable odor after remaining twenty-four hours in the uterus.—*N. Y. Medical Journal*

Powdering Camphor.

Mr. George F. Ebert, of *The Pharmacist*, suggests the following: I find the much-used and much-abused glycerine the simplest and most efficient substance to keep camphor in a finely divided state. The following is the maximum quantity of glycerine which I have found necessary to overcome the adhesiveness of the particles of camphor for each other:

Take of Camphor....6 ounces.
Alcohol.....1 fluid drachm.
Glycerine...2 fluid drachms.

Mix the glycerine with the alcohol, and triturate it with the camphor until reduced to a fine powder.

Formula for Neuralgia.

According to the *Richmond and Louisville Medical Journal*, Dr. Edward C. House has employed with success, in a large number of cases of neuralgia, the following combination of ergotine with the phosphide of zinc:

℞. Zinci phosphidi..... ʒ i.
Ergotin .....gr. v.
In pilulas No. 60 dividend.
One pill to be taken after each meal.

Intertrigo.

As chafing of the skin of various parts of the body is quite common at this time of the year, the following formula may prove timely:

℞. Bismuth subnitrat.
Glycerinæ.....ää ʒ ij.
M.

A few drops of tincture of cochineal may be added, to give the mixture a flesh-tint, and a little water may be added in warm weather. It may be smeared over the opposing surfaces after they have been carefully cleaned.—*Philad. Med. Times.*

Treatment of Eczema Papulosum.

M. Bazin uses the following in cases of this form of eczema accompanied by dyspepsia, etc.:

℞. Sodii bicarb..... ʒ i. ℈i.
Syrupi saponariæ.....f ʒ viij.
M.

Sig.—Tablespoonful morning and evening.

Externally the following:

℞. Boracis.....gr. xxx.
Glycerinæ..... ʒ iiss.
Aquæ destillat.....ad f ʒ x.

This lotion is to be applied, rather warm, morning and evening, and the skin is afterwards to be powdered with starch. Occasionally starch-baths—two pounds of starch to the bath—are found to give relief.—*Ibid.*

Remedy for Dyspepsia.

The Physician's Monitor contains the following:—℞. Manganesii iodidi, gr. xv.; ext. valerianæ, gr. xxx.; podophylline, gr. xv.; ext. barosmæ, gr. xxx.; ext. nuc. vomicæ, gr. xv.—M., et fiat in pilulas, xxx. S.—Take one a day; or, if the bowels are constipated, one night and morning.

Explosive Medicines.

Young medical men are warned (*Revue de Therapie*, 1873), against combining in their prescriptions certain agents, which, in case of the development of any acid, or even if exposed to a moderately high temperature, are liable to *go off*. Among these dangerous formulæ may be cited a prescription for pills not unfrequently employed in England, composed of nitrate of silver, extract of nux vomica, muriate of morphia, conserve of roses and extract of gentian, which, when affected by the development of heat, will speedily explode. In like manner, pills made of nitrate of silver and creasote, or carbolic acid, will very soon generate heat sufficient to induce spontaneous combustion. Still more surprising to the occupants of the sick-chamber is the energetic explosion (suggestive of nitroglycerine) arising from the pills or mixtures of which oxymuriate of potash forms an ingredient.

Pomade for Venereal Alopecia.

℞ Hydrarg. protiodid.... gr. xv.
Axungiæ..... ʒ v.
Tinct. cantharidis..... ♍iss to ♍iv.
M.

Apply morning and evening, using at the same time appropriate internal treatment.

For Constipation.

℞ Aloës socotrinæ..... gr. xv.
Ext. anthemidis..... gr. xv.
Ext. rhei..... ʒ ss.
Zingiberis pulv..... gr. viii.
M.

Divide into twenty pills; one or more at night as required.

Lotion for Fetid Perspiration of the Feet.

℞ Potassii permanganat. gr. xxx.
Aquæ..... f ℥ iv.

The lotion to be applied morning and evening, and the feet to be afterwards powdered with lycopodium or starch.

Phosphorated Oil.

Dr. Redwood (in the *Pharmaceutical Journal*) gives the following formula, which he says is a suitable prescription for an emulsion of the new preparation, phosphorated oil:

℞. Olei phosphorati..... fl. ʒ j.
Vitelli ovi..... fl. ʒ ij.
Liquoris potassæ..... fl. ʒ j.
Syrupi tolutani..... fl. ʒ vj.
Aquæ chloroformi, ad... fl. ℥ vj.

Mix together the first two ingredients, then add the syrup and water, and lastly the alkali.—*Chemist and Druggist.*

Topical Applications in Otorrhœa.

M. Ménière, in a clinical lecture on otorrhœa, gives the following formulæ as convenient and useful in many cases. Although they cannot always be expected to exercise a curative influence, yet, joined to appropriate internal remedies, they are in a high degree serviceable.

In "earache," one or two leeches are to be applied behind the ear, which may afterwards be covered with a poultice sprinkled with laudanum. At the same time two or three drops of the following solution may be dropped into the external meatus:

℞. Aconitiæ..... gr. i.
Aquæ..... f ʒ v.
M.

This solution gives better results than laudanum, chloroform, etc., so frequently used. Should the pain be intense, general anodynes may be employed. In chronic otorrhœa the external meatus should be kept thoroughly clean by frequent injections of tepid water, and may in addition be painted once a day with the following solution:

℞. Acid. carbolic..... gr. i.
Glycerin..... ʒ i.
M.

This solution acts very satisfactorily in modifying the character of the secretion. It is sometimes necessary to increase the proportion of carbolic acid. A ten per cent. solution of nitrate of silver painted upon the internal meatus will often serve a similar purpose. M. Ménière frequently employs the following solution in cases of chronic discharge from the ear. It has the advantage that the patient can apply it himself:

℞. Zinci sulph..... gr. iv.
Glycerin..... f ʒ ii.
Aquæ..... f ʒ vi.
M.

Three to six drops are allowed to fall into the ear, which has previously been thoroughly cleansed with tepid water. The head is to be retained in the inclined position from eight to twelve minutes.

The following solution may be used when great vascularity of the bottom of the ear exists, even where there is perforation of the tympanum:

℞. Plumbi acetat... gr. ss. ad i.
Aquæ ..... f ʒ ss.
M.

A New Application for Old Ulcers

Is always in order, and no apology is necessary for giving the following, which was very highly lauded by a writer in the *Lancet* a year or two ago, and has been made the subject of a communication to one of the French journals recently. It consists of flour, four ounces; tragacanth, one-half ounce, powdered; acacia, one ounce, powdered; chalk, one drachm; one egg; water, one pint. Put these materials in a stew-pan, and bring them nearly to boiling, then allow the mixture to cool, and add water to form the whole into a thin paste, which may be applied twice daily, without washing off. The ulcer to be covered with a soft rag. The mixture should not be allowed to become sour.—*Phila. Med. Times.*

Pill Coating.

In the *Pharmaceutical Journal*, Mr. J. A. Cope, Derby, and Mr. J. Whitfield, F.C.S., Scarborough, give formulæ for pill coating. The former recommends, first, to sufficiently moisten the pills (which should be perfectly round and not too hard) with a thin mucilage. One part mucilage (B. P.) and two parts water is sufficiently dense. They are then to be turned into a gallipot containing some powdered French chalk, and shaken round well for a few seconds, and after lying out for a short time, again shaken round in a clean gallipot in order to remove superfluous chalk and polish them.

Mr. Whitfield's process is similar, but instead of the mucilage he recommends a varnish composed as follows:

Common amber resin. 1 to 2 drachms.
Spirit of turpentine... 1 drachm.
Oil of geranium..... 20 minims.
Absolute alcohol..... To make 1 ounce.

The oil of geranium may be omitted or substituted by other essential oils at discretion. The pills should be made as hard as possible.—*Ibid.*

Soluble Prussian Blue for Microscopic Injections.

When we precipitate the solution of a *persalt* of iron by an excess of ferricyanide of potassium, we obtain a blue precipitate, which is slowly deposited.

If we separate by filtration the floating greenish-blue liquid, and wash the precipitate in distilled water, the result is a complete solution of this precipitate, when the excess of ferricyanide of potassium has disappeared. The solution is a magnificent blue, and afterwards leaves no deposit.

In an investigation which occupied a very long time, M. Sergent has made a most important advance in giving a formula which enables us to obtain rapidly the soluble Prussian blue.

This prepration is based upon the em-

ployment of a solution of ferricyanide of potassium titrated so that we can work with a solution of *persalt* of iron containing equal atomic quantities to those which exist in the ferricyanide employed. The reaction may be represented by this equation:

$$Cy^6 Fe^2 K^4 + Fe^2 Cl^3 = (Cy^6 F^2) Fe^2 K + 3 K Cl.$$

Red prussiate of iron,.... 10.50 grs.
Sulphate of protoxide of iron..... 9.00 grs.
Distilled water.....1000.00 grs.

We dissolve separately the two salts in the water indicated, and we add, whilst agitating, the solution of sulphate of iron to the red prussiate.

The soluble Prussian blue is available for histologic injections; it is used for this purpose in the Laboratoire de Chimique de la Charité.

The Best Method of Using Chlorate of Potassium Topically.

Prof. Gosselin, having experienced the frequently unsatisfactory performance of this remedy when used locally in cases of mercurial stomatitis, etc., has devised the following method, which he recommends strongly. A concentrated solution of the salt, mixed, if necessary, with a little laudanum to quiet any pain caused by the stomatitis, is placed upon pieces of lint and introduced into the gingival gutters on each side of the mouth. These pieces of lint are to be renewed at short intervals during the day, and may be alternated with the salt in the usual form of a gargle.—*Ibid.*

Whooping-Cough.

Bromide of ammonium in doses of gr. iss. to gr. v. three, four, or more times a day, with the use of a four per cent. solution of bromide of potassium by means of the atomizer or vapor inhalations.

Pulvis Glycyrrhigæ Co.

The formula for this excellent laxative is given by the new Prussian Pharmacopœia as follows:

Senna, liquorice, of each 2 parts.
Fennel seed, washed sulphur, of each 1 part.
White sugar, 6 parts.

All in fine powder. To be well mixed.

The dose is a teaspoonful.

Cherry Tooth Paste.

℞. Pulv. aluminis, ℥ ss.
" Tridis. flor.,
" Cretæ,
" Pot. tart. acid.,
" Oss. sepiæ, āā ℥ iss.
" Cocci. ℥ i.
Ol. caryophylli, gtt. xv.
Ol. amygd. ess., gtt. xx.
Glycerini q.s.

Mix, allow to stand in mortar till the effervescence ceases, occasionally stirring.

Iodized Coffee.

Dr. Calvo, the elder, recommends an iodized syrup of coffee containing the following:

Syrup of coffee.....500 grammes.
Potassium iodide..... 16 "

Dose.—Two or three spoonfuls each day.

Syrup of coffee is excellent for disguising the taste of iodide of potassium, and makes the use of this valuable remedy agreeable to the sick.—*Chemist and Druggist.*

Sedative Mixture for the Acute Stage of Gonorrhœa.

Dr. Lemaire, physician to the Hôpital Saint Germain-en-Laye, recommends the employment of the following formula during the acute stage of a gonorrhœa, while injections are not admissible. The usual precaution as regards diet, exercise, etc., and the use of lotions, etc., are of course to be observed:

℞. Tr. Cannabis indicæ... 2 grammes.
Acid benzoic ..... 1 gramme.
Julep of gum.....60 grammes.

M. To be taken during twenty-four hours, accompanied with injections of cold water to the number of ten or fifteen.

Substitute for Diascordium.

M. Bouchardat gives the following formula as one avoiding the complexity of the original, and yet answering all the purposes to which this ancient remedy has been put:

Muriate of morphia.. 3 centigrammes.
Tannin.....30 "
Tincture of balsam of tolu .....10 drops.
Conserve of roses..... 6 grammes.
Porphyrized phosphate of lime..... 3 "

Mix thoroughly.

Each gramme of the electuary contains three milligrammes of the muriate of morphia. It can, like diascordium, be given in diarrhœas in similar doses: two to eight grammes in twenty-four hours. —*Jour. de Méd.*

Formulæ for Whooping-Cough.

℞. Chloral hydrate.....gr. xij.
Vin. ipecac..... ʒ i.
Syr. aurt. cort ..... ʒ ij.
Aq. menth..... ℥ ss.
M.

A teaspoonful every quarter of an hour.

℞. Potassæ bromid .....gr. xxx.
Tr. conii..... ʒ i.
Syr. scellæ..... ʒ iij.
Aq..... ʒ ij.
M.

A teaspoonful every two hours.—*The Lancet.*

A Chalybeate Lemonade.

M. Stanislas Martin, pharmacien, recommends in the *Bulletin Gén. de Thérap.* the following formulas:

℞. Citron of iron, in scales. 1 gramme.
Syrup of lemon (of the Codex)..... 100 gr.
Seltzer water (artificial) 900 "

Put the citrate and the syrup into a bottle and add the contents of two siphons of Seltzer water, seal hermetically, fastening the cork with wire. The Seltzer water of commerce is so charged with carbonic acid gas that, notwithstanding its transfer from one bottle to another, enough of the gas remains in solution to render the drink very palatable. A glassful of the above represents twenty-five centigrammes of citrate of iron. The syrup of lemons can be replaced by a syrup of oranges if desired.

For Inhalation in Asthma.

The Doctor gives the following formulæ for inhalation in asthma:

℞. Ether sulph.....30 parts.
Acid benzoic acid....15 "
Bals. peruvian ..... 8 "
M.

℞. Ether sulph..... 2 parts.
Essence terebinth...15 "
Acid benzoic.....15 "
Bals. tolutan..... 8 "
M.

Place either mixture in a wide-mouthed vial. The warmth of the hand is sufficient to produce vaporization of the ingredients.

Rheumatic Liniment.

℞. Chloral..... ʒ iv.
Camphor ..... ʒ vi.
Tinct. aconite root..... ʒ i.
Oil cajeputi..... ʒ iij.
Alcohol, sufficient to make... ℥ iv.

Apply with a camel's-hair pencil over the painful part.

For Freckles.

Sulpho-carbolate of lime.... ʒ ij.
Glycerine..... ℥ xxv.
Rosewater ..... ℥ xxv.
Alcohol ..... ℥ v.

Mix. Anoint the skin twice daily, letting it remain damp with the lotion for half an hour.

Toothache Drops.

(1.) ℞. Chloroform,
Sydenham's laudanum, of each..... ℥ ij.
Tinct. benzoin..... ℥ viij.
Mix.

(2.) ℞. Creasote..... ʒ ij.
Chloroform..... ʒ ij.
Sydenham's laudanum... ʒ iv.
Tinct. benzoin..... ℥ i.
Mix.

(3.) ℞. Oil of peppermint,
Rhigolene,
Chloroform, ää ..... ʒ iij.
Gum camphor..... ʒ ij.
Mix.

(4.) ℞. Chloral..... ʒ i.
Camphor..... ʒ i.
Morphia..... grs. ij.
Oil of peppermint..... ʒ ij.
Mix.

For Sciatica.

℞. Chlorai hydrat..... ʒ iij.
Sodii bromidi..... ʒ iij.
Morphiæ sulph..... grs. vi.
Quiniæ sulph..... grs. liv.
Liq. arsenici chloridi..... ʒ ij.
Pulv. camphor..... ʒ ss.
Elix. taraxac. comp..... ℥ vi.
Tinct. aconiti..... gtt. xxvi.

Mix. Take one dessertspoonful every three hours until relieved. This compound has given entire relief in ten cases and failed in three.

Hair Tonic.

℞. Adipis..... ℥ ij.
Ceræ albæ..... ℥ i.
Bal. Peruvian..... ʒ ij.
Tinct. canth..... ʒ ss.
Olei lavendulæ..... gtt. xvi.

Melt the lard and wax together by gentle heat; add the other ingredients and stir up till cold. This preparation has no superior in restoring the growth of the hair.—*Druggists' Circular.*

For Cholera Morbus.

℞. Magnesiæ ust..... ʒ i.
Morphiæ..... gr. i.
Pil. hydrarg..... grs. viij.
Divide into four powders and give one every half-hour until relieved.

Unguentum Glycerini.

BY W. STEFFEN.

Starch, finely pulverized, mixed cold with glycerine, and then heated until it becomes clear, is recommended as a good salve.

Tasteless Tincture of the Chloride of Iron.

We are indebted to Dr. Vincent Davis, pharmacist, of this city, for the following formula for the preparation of the tinct. ferri chlorid. (new):

℞. Citric acid..... ℥ j.
Carbonate potassium.....q. s.
Distilled water..... ℥ j.
Sol. chlorid of iron. (offic.) ℥ j.
Dilute alcohol.....q. s.
White sugar..... ℥ ss.

Dissolve the citric acid in the water, apply heat sufficient to bring to the boiling point, then remove from fire and add carbonate potassium until it ceases to effervesce. You now have a beautiful green solution, to which add dilute alcohol sufficient to make four fluid ounces; in this dissolve the sugar, and filter.—*The Am. Practitioner.*

How to deprive Iodine of its Stain.

Add a few drops of phenic acid to the tincture, and it will not stain; moreover, the tincture is more efficacious, and its action more certain. M. Bogs recommends the following formula for use in injections:

Alcoholic tincture iodine...	3 grms.
Phenic acid.....	6 drops.
Glycerine	30 grms.
Distilled water.....151	grms.

—*Med. and Surg. Reporter.*

Liquid Cochineal.

The London *Chemist and Druggist* says that the following is an excellent formula, the product being a rich crimson syrup, which will preserve its color and brightness for an almost indefinite period:

Alumin. ust.,	
Potas. tart. acid.,	
Potas. carb.,	
Cocci cacti.....āā	ʒ xij.
Aquæ.....	℥ xxiv.
Sacchar. alb.....	lb. ij.

Reduce the cochineal to powder, and mix it thoroughly in a mortar, with dried alum, cream of tartar, and carbonate of potassa. Then add sufficient water to form a thin paste, and after trituration pour in gradually the remainder of the water, stirring diligently. Allow the mixture to stand for twelve hours; then filter and dissolve the sugar in the clear liquid with the aid of a gentle heat.

Elixir of Wild Cherry.

A Washington correspondent sends the following formula to *The Druggists' Circular:*

Take—

Wild-cherry bark..	4 troy	ounces.
Liquorice root (deprived of its cortical).....	8 "	"
Ceylon cinnamon, Coriander seed,		
Star aniseed, of each	1 "	ounce.
Caraway seed, Cardamom seed, of each.....	½ "	"
Red saunders.....	1 "	"
White sugar.....	16 "	ounces.
Alcohol.....	16 fl.	"
Water.....	Sufficient.	

Of the wild-cherry bark make one pint of infusion by cold percolation.

The liquorice root should be ground fine and allowed to soak for three hours in as much water as will cover it, then packed into a percolator, and cold water poured on until six pints of infusion are obtained. Mix this with the infusion of wild-cherry, and after an hour filter through paper.

Percolate the red saunders and aromatics with the alcohol until one pint of tincture is obtained; mix with the filtered infusion and sugar, agitate until the sugar is dissolved, and after twenty-four hours filter through paper, when a beautiful dark-red elixir is obtained.

The above is a pleasant aromatic tonic, designed specially as a vehicle for the administration of sulphate of quinia, the taste of which it completely conceals without impairing its properties. One fluid ounce is sufficient to cover the taste of twelve grains of quinia. *No acid should be used with it.* The elixir does not dissolve the salt, but holds it in suspension sufficiently long to be taken.

Pancreatin and Cod-Liver Oil.

Mr. Charles Hamm, in the *Pharmacist*, recommends the following formula for an emulsion:

Take of—

Pancreatin, in powder..	2 drachms.
Water.....	2 fluid ozs.

Allow to swell and add—

Bicarbonate of soda....	1 drachm.

Rub well together, then add—

Cod-liver oil.....14	fluid ozs.
Oil peppermint.....	5 minims.

Dose—A tablespoonful three times a day.

Ferrated Cod-Liver Oil.

A handsome ferrated oil is obtained by triturating one part of benzoate of iron with light cod-liver oil until one hundred parts of the latter have been added, agitating the mixture occasionally during several days, and filtering. The clear filtrate is of a yellowish-brown color,

and contains nearly one per cent. of ferric benzoate. This salt must be prepared for the above purpose from benzoate.

Domestic Wines.

The following receipts are from *The Druggists' Circular* of July:

BLACKBERRY WINE.

Ripe berries	20 gallons.
Hot water	22 "
Sugar	40 pounds.
Ginger	2 ounces.
Catechu	2 "
Red tartar	8 "
Alcohol	1 gallon.

Bruise the berries, pour on 16 gallons of hot water, infuse three days, and subject to pressure in a canvas-bag. Macerate the dregs for twelve hours in the remainder of the water, press again, mix the two liquors together, add the sugar and, after fermentation, the spices, the tartar, and lastly, the alcohol.

BLACK CURRANT WINE.

Black currants	20 gallons.
Cold water	20 "
Sugar	60 pounds.
Red tartar	8 ounces.
Cloves,	
Orange-peels,	
Ginger, of each	½ ounce.

Treat like the above.

MULBERRY WINE.

Ripe mulberries	10 gallons.
Apples	10 "
Sugar	20 pounds.
Catechu,	
Red tartar, of each	8 ounces.

Express the juice, put it into a cask, add the sugar, and ferment with yeast, if necessary. Then add the other ingredients.

CHERRY WINE.

Bruised cherries	10 gallons.
Water	10 "
Sugar	22 pounds.
Cherry-stones, bruised	2 "
Honey	5 "
Alcohol	1 gallon.
Red tartar	6 ounces.
Cardamoms	1 ounce.

Follow the process given for blackberry wine.

Currant wine may be made like black currant wine, only omitting the tartar and the spices. For this wine the best flavor would probably be about ten per cent. of raspberries bruised and fermented with the currants. The *fermentation* is an important point in the making of all these domestic products. This part of the process is explained in a former issue of our paper with more particulars than our space allows us to give at present.

BIBLIOGRAPHY.

TREATMENT OF NERVOUS AND RHEUMATIC AFFECTIONS BY STATIC ELECTRICITY. By DR. A. ARTHIUS. Translated from the French by J. H. ETHERIDGE, M.D., Professor of General Therapeutics, Rush Medical College. Chicago: W. B. Keen, Cooke & Co. 1874.

THE translator says his work was undertaken from a desire to contribute to the literature of a subject scarcely known to young American physicians. After reading several pages of the book we wonder greatly where and how the translator gained such an impression of the needs of American physicians and their degrees of intelligence that he should offer them such a mess of nonsense as this, with the idea that he is doing them a service. Who Dr. Arthius is we do not know except from this work of one hundred and forty-four pages; but judging from what he says, and his style of saying it, he belongs to that class of specialists known in this country as quacks. Like most of this species, his strongest point seems to be the denunciation of every "system" except his own, and one of his weak points, like theirs, consists in the utter worthlessness of his theories.

The book was evidently written with a view to its circulation among non-professional readers, and this impression is strengthened by the translator's statement, that he "is indebted to a friend for a copy of the original, she having received it from a relative in Paris, who was cured of an obstinate nervous affection by Dr. Arthius's new method."

A CONSPECTUS OF THE MEDICAL SCIENCES: comprising Manuals of Anatomy, Physiology, Chemistry, Materia Medica, Practice of Medicine, Surgery and Obstetrics, for the use of Students. By HENRY HARTSHORNE, M.D., Professor of Hygiene in the University of Pennsylvania, etc., etc. Second edition, enlarged and thoroughly revised. With four hundred and seventy-seven illustrations. Philadelphia: Henry C. Lea. 1874. Pp. 1024.

THE author indicates the following changes as among the most important that have been made in the work since the publication of the first edition: In the section devoted to Chemistry both the new and the old nomenclature have been given. In the manual of Materia Medica fourteen new articles have been added, a few of minor consequence omitted, and the nomenclature has been made to conform to the last edition of the U. S. Pharmacopœia. A short chapter on skin-grafting has been added to the manual of Surgery. Considerable new matter has been added to the manual of Obstetrics, especially upon the topics of Surgical Diseases of Women, Rupture of the Perineum, and on Ovarian Tumors. Numerous other and minor changes have been made throughout the book, which contains considerably more matter than the first edition did.

While we have no very high appreciation of the necessity for hand-books which can include a synopsis of the whole curriculum of medical study between two covers, we can heartily say that, of its kind, Dr. Hartshorne's book is among the

best. We take the liberty of suggesting two additions which we think might be made with advantage; one would be the acknowledgment of the sources from which illustrations are taken, and the other would comprise well-selected references to authorities, to be incorporated with the text or placed in foot-notes. The latter addition would offer to students a means of becoming familiar with each subject, and thus remove, to some extent, the objection urged against hand-books, that they encourage the acquisition of a merely superficial knowledge.

A TREATISE ON FOOD AND DIETETICS, Physiologically and Therapeutically Considered. By F. W. PAVY, M.D., F.R.S., Fellow of the Royal College of Physicians; Physician to, and Lecturer on Physiology at, Guy's Hospital. Philadelphia: Henry C. Lea. 1874. Pp. 574.

DR. PAVY had intended to add a section on Food to the contents of his volume on "Digestion, its Disorders and their Treatment," but afterwards determined to publish it as a separate treatise. The present work is the result of his labor in this direction, and is well calculated to do credit to his perseverance in collecting facts and his judgment in arranging them in an entertaining as well as practical form.

The introductory chapter, on The Dynamic Relations of Food, is especially interesting, as it embraces much information that is new to the majority of physicians relative to the office performed by food in the conservation of vital force. Following this the subject is arranged under the following heads: The Origination of Food; The Constituent Elements of Food; Alimentary Principles: Their Classification, Chemical Relations, Digestion, Assimilation, and Physiological Uses; Alimentary Substances; The Preservation of Food; Principles of Dietetics; Practical Dietetics, and Therapeutical Dietetics.

A very large amount of interesting matter regarding the articles of food in use in different countries is embraced under the heads of Alimentary Substances, and Practical Dietetics. The chapter on wines and liquors, on account of its plain and well-arranged information, being alone worth the price of the book to those who have an interest in the present discussions of the "liquor question."

Under the head of Practical Dietetics an interesting account is given of the different systems of training pursued formerly and at the present day in athletic contests. Practical hints with regard to the diet of invalids, and numerous dietary tables in use in English hospitals and public institutions close the book. It is but rarely that we have offered us so much practical information in so agreeable a manner as is done by Dr. Pavy in the present instance.

LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD. By CHARLES WEST, M.D., Fellow of the Royal College of Physicians; Physician to the Hospital for Sick Children. Fifth American, from the Sixth Revised and Enlarged English Edition. Philadelphia: Henry C. Lea. 1874. Pp. 678.

SINCE the first edition of this work appeared, when competitors were few, to the present time, during which a score, perhaps, of treatises on the diseases of infants and children have found their way into the market, Dr. West's book has never ceased to be a favorite. For this unvarying popularity two reasons are very apparent. First, the statements are based upon a multitude of carefully observed and skilfully recorded cases, and so possess a truthfulness and an adaptability to a physician's wants that cannot be attained by a work that results from any amount of familiarity with the literature of the subject only; and second, very few writers on

medical topics have ever succeeded in clothing their ideas and statements in so agreeable a style as Dr. West has at his command.

The author says: "Seven years more of clinical observation, and the records of 743 more cases, and of 181 more post-mortem examinations, making in all nearly 2,000 cases, and nearly 600 post-mortem examinations, have, it may be hoped, enabled me to add something to the value of the work. I have striven not to increase its bulk, and have omitted much that seemed to me less important, in order to obtain space for the introduction of original matter which appeared to me of great moment. In spite, however, of all my pains, this volume is bigger than its predecessor by more than thirty pages."

THE SCIENCE OF HOMŒOPATHY; or, A Critical and Synthetical Exposition of the Doctrines of the Homœopathic School. By CHARLES HEMPEL, M.D., etc. Boericke & Tafel, New York, Philadelphia, Baltimore, San Francisco. 1874. Pp. 177.

THE persistence with which writers about so-called homœopathy pitch into bloodletting, calomel, antimony, and quinine, reminds us of Mr. Beecher's story of the dog his father once owned, who, when a pup, saw a squirrel run into a hole in a stone wall. From that day to his death, and he lived to a good old age, the dog never passed that way without stopping to bark at the hole where the squirrel disappeared; and a stranger to the facts of the case would have supposed from his noisy demonstrations that the squirrel was really there every time.

We have really been anxious to see a fair scientific exposition of the principles of the system, and opened the pages of this book with a sincere hope that now we should be enlightened. But when a man tells you—"A Creative Sphere, perpetually emanating from the Divine Source as its central focus and generating fountain-head, encompasses and interpenetrates every form of created matter, even to the ultimate boundaries of nature. This Sphere, as it descends from the highest heaven to the lowest planes of Creation, accommodates itself to the nature of every created thing, and by its presence in every molecular constituent thereof, enables it to exist and subsist, and to perpetuate itself in accordance with the laws which the Creator had originally inscribed upon its being. It is this sphere which I have so frequently alluded to as the life-force of the Cosmos"—one begins to suspect that either life will be too short to come to the end of the argument, or that the writer is "piling on the dictionary" for effect. But when he writes: "I may be permitted to mention a case of gonorrhœal poisoning of the eyeball which yielded in twenty-four hours to a single globule of the two hundredth attenuation of nitri acidum;" or, "A young lady of fifteen years of age was cured of a purulent and very fetid otorrhœa, with which she had been afflicted for a year, and which was attended with agonizing pains in the head every night, by means of a single drop of the thirtieth attenuation of mercurius vivus," one's self-respect will not consent to his wasting any more time in reading the man's statements.

If the writings of Dr. Hempel have any authority as representing the "Science of Homœopathy," we have less respect for those who believe in it, or practice it, than ever before.